Management Issues: Resource impacts associated with "bagging" the area's high mountain peaks (12,000 - 14,000 feet), limited access to Sangre de Cristo range because of adjacent private land area.

Grazing Allotments: There is one active RGNF allotment that permits 150 AUMs of grazing on about 4,500 acres Recreation stock accounts for about 40 AUMs of grazing

Recreation Visitor Days: Total RVDs in FY 94 were 28,900

Special Uses: There are 15 RGNF outfitter-guide permit holders who operate in this Wilderness (summer and fall).

There are over 225 miles of trail in this Wilderness Recreation use is restricted to trails and high-elevation lakes because of steep, narrow drainages Cross-country travel is very difficult and challenging

From a Forest perspective, issues related to the management of all of these Wilderness Areas includes effective information and educational programs, law enforcement, monitoring all Wilderness resources, nonconforming uses, recreation-user impacts, trails conditions and maintenance, and potential need for limiting use.

Wilderness Trends

The following table shows the use for the past six years Wilderness use within the La Garita, South San Juan, and Weminuche has been fairly constant during the early 1990s Economic conditions, snow conditions, and gasoline prices influence when visitors use the Wilderness, and their length of stay

In the last couple of years, there has been an increase in visitation. The Sangre de Cristo Wilderness and addition to the La Garita Wilderness are reflected in the use figures for 1994 and 1995

Table 3-77. Wilderness Use on the RGNF

Wilderness Use on the RGNF, 1990-1995	
Fiscal Year	Recreation Visitor Days (M)
1990	115 1
1991	111 8
1992	113 0
1993	112 3
1994	150 6
1995	154 1

The Resource Planning Act Report, *An Analysis of the Outdoor Recreation and Wilderness Situation in the United States 1989 - 2040* (Cordell et al 1990), projects future increases in Wilderness recreational demand Within the next 50 years (by 2040), the following activities

are expected to show an increase backpacking, wildlife observation, day hiking, and outdoor photography The report suggests there is an increasing concern related to environmental issues, a need for biological monitoring, and a decrease in the availability of undisturbed areas, which supports a predicted growth in demand for non-recreational use in Wilderness.

RESOURCE PROTECTION MEASURES

Mitigation measures to prevent significant changes in Wilderness resources, and values are outlined in the Forestwide Standards and Guidelines (Chapter 3, Physical, Biological, *Disturbance Process and Social Sections*)), *Wilderness Management Area Prescriptions* (Chapter 4, 1.11 - Pristine, 1 12 - Primitive and 1 13 - Semi-Primitive), and Wilderness Implementation Schedules (Action Plans - are available on request at the Supervisor's Office in Monte Vista).

Wilderness funding will primarily be used for

* monitoring changes in Wilderness resources,
* developing, implementing, and monitoring area-use determinations for public, institutional, and outfitter-guide users,
* contacting visitors,
* maintaining trails to approved standards,
* maintaining trailhead signing and conducting Wilderness educational programs,
* emphasizing Leave No Trace and other low-impact techniques for livestock users, and
* developing other Wilderness information for visitors

ENVIRONMENTAL CONSEQUENCES

Actions Common to All Alternatives

Wilderness Implementation Schedules (action plans) have been developed for each Wilderness Area and are currently being implemented Wilderness Operation Teams are.

* managing all Wilderness resources and not just recreation,
* evaluating all resource effects (both within and outside Wilderness) under landscape analysis,
* monitoring all Wilderness resources, including recreation-use impacts, and
* Coordinating and ensuring consistency in establishing Wilderness objectives, policies and management

None of the Alternatives will affect the management of the Forest's Wilderness Areas

Direct and Indirect Effects

Indirect effects associated with the Wilderness resource are as follows.

Effects on Wilderness from Recreation Opportunity Spectrum (ROS) Settings

In Alternative A, there will be a significant increase (24%) in managing areas for Primitive settings, because a majority of the unroaded and undeveloped areas adjacent to Wilderness are recommended for inclusion in the NWPS. In Alternatives E and F, there will be increases in areas managed for Primitive settings (Alt E - 3% and Alt F - 14%) because of numerous unroaded areas being recommended for inclusion in the NWPS In Alternatives B, D, NA and G, the primitive setting will not change

Budget Effects

Historically, the Forest Service has not been allocated budgets necessary to implement Forest Plans The Wilderness budgets we have experienced lead us to project budget shortfalls for all the Alternatives

Alternatives F, B, and A have the largest budget shortfalls (average shortfall - $112 2) with Alternatives E, D, and NA having moderate shortfalls (average shortfall $84 3) and Alternative G having the least shortfall ($28.0) (All monetary values are in thousands of dollars)

These budget shortfalls will have the following effects For Alternatives F, B, and A, the shortfall would result in not having enough Wilderness Rangers on an annual basis to administer and monitor the Wilderness Areas, and would limit the amount of Wilderness trails maintained each year With significant increases in areas recommended for Wilderness in Alternatives A and F, should these areas become Wilderness, there would be limited dollars to post and sign the new area boundaries and portals, maintain the trail systems within these new areas, and hire sufficient personnel to administer and monitor these new areas

For Alternatives E, D, and NA, the shortfall would result in having limited dollars for trail maintenance and reconstruction purposes, nor would we have enough Wilderness Rangers to do administration and monitoring work. With the areas recommended for Wilderness in Alternative E, the shortfall would be the same as described for Alternatives A and F In Alternative G, the shortfall impact would affect trail maintenance in Wilderness Areas

Any increased Wilderness funding would be used to hire more personnel to administer and monitor Wilderness resources, meet Wilderness trail-maintenance and reconstruction needs, and meet Wilderness informational and educational needs

Effects on Wilderness from Recreation Use

Under all the Alternatives, recreation use in Wilderness Areas is expected to increase Recreation impacts in the Wilderness are caused mainly by day use, overnight backpackers, and horse users. Impacts tend to be widely distributed, but concentrated along travelways or around lakes or near streams The amount of impacts created depends on the size of groups, type of users, and length of stay

Large groups of people (10-15) and horse groups (25) tend to cause the most resource impacts The impacts on resources generally are associated with disturbance of the vegetative cover, effects on soils (compaction or erosion), and effects on water quality near lakes or streams

Another indirect effect caused by Wilderness users is the displacement or harassment of wildlife This effect is related more to the frequency of human presence than to the amount of total recreation use, or the number of people present at any one time (Hammitt and Cole, 1987). Since little is known about the relationship between the amount of recreation use and impacts on wildlife, monitoring will be done to better understand the impacts and determine if implementation of management actions will be required

Another effect caused by Wilderness users is related to fisheries, especially in high mountain lakes and streams Coordination efforts with the Colorado Division of Wildlife are taking place regarding the stocking of Wilderness lakes and streams with native fish species, the need for catch-and-release regulations at certain high mountain lakes, and whether other regulations may be needed

Forestwide Standards and Guidelines, Management-Area Standards and Guidelines, and Wilderness Implementation Schedules will be implemented to mitigate any significant changes in the Wilderness resources.

Effects on Wilderness from Research Natural Areas (RNAs)

In Alternative A, there will be dual-management designation for the Finger Mesa area (Recommended for Wilderness/RNA), Little Squaw Creek (Wilderness/RNA), North Zapata area (Wilderness/RNA), and Deadman area (Wilderness/RNA) In Alternatives B, D, E, F, and NA, dual-management designation will apply to the Little Squaw Creek area (Wilderness/RNA), North Zapata (Wilderness/RNA), and Deadman area (Wilderness/RNA) In Alternative G, the dual-management designation will apply to the North Zapata (Wilderness/RNA) and Deadman (Wilderness/RNA) areas In all cases, this will affect and limit the use that can occur within these areas, and place restrictions on any new trail construction Existing trails within these areas will be maintained to reduce erosion and protect the investment

Effects on Wilderness from Range Management

As provided for in the Wilderness Act, livestock grazing is allowed and does occur in Wilderness Areas Annual allotment operating instructions can address adjustment in the management of livestock in order to mitigate certain Wilderness conflicts, or issues on allotments in Wilderness Areas Issues related to livestock numbers, on-off dates, or possible

elimination of allotment pastures will have to be addressed when allotments are scheduled for analysis and New Allotment Management Plans are written

Direct effects of livestock use in Wilderness are mainly associated with over-utilization on certain pastures in allotments, impacts on trails, and potential conflict with Wilderness users To mitigate any significant changes in the Wilderness resources caused by livestock grazing, Forestwide Standards and Guidelines, as well as Management-Area Standards and Guidelines, will be implemented Also, Wilderness personnel will coordinate with Range personnel regarding recommendations for the annual operating instructions for allotments in Wilderness

Effects on Wilderness from Oil and Gas Leasing

In all Alternatives, Wilderness Areas are legally unavailable for oil and gas leasing, and are withdrawn from locatable-mineral entry, with the exception of entry to valid and existing mineral claims (Refer to the Minerals section in this chapter for more detailed information about locatable minerals)

CUMULATIVE EFFECTS

In Colorado and northern New Mexico at the Province level, there are 40 designated Wilderness Areas, totaling 3,592,000 acres, and 5,826,000 acres of undeveloped areas with various Congressional designations (National Parks, Monuments, or Recreation areas) and unroaded areas (Forest Service and Bureau of Land Management lands)

Within the Tri-Section level (the southern 1/3 of Colorado and northern 1/3 of New Mexico), there are 15 Wilderness Areas, totaling 1,555,624 acres, and 2,089,339 acres of undeveloped areas with various Congressional designations (National Parks, Monuments, and Recreation areas) and unroaded areas (Forest Service and Bureau of Land Management WSAs).

The RGNF has portions of four Wilderness Areas, totaling 430,300 acres, and 53 unroaded areas, covering 530,722 acres The Wilderness Areas account for about 22% of the Forest's total acreage, while unroaded areas represent 27% The Wilderness Areas on the RGNF account for 2% of the Region's total Wilderness acreage

Given the amount of Wilderness acreage on the RGNF, projected recreational use and demand for Wilderness can be met during this planning period Any change in area growth and/or increased use above the projected demand can be mitigated by use of the Forestwide Standards and Guidelines and the Management-Area Standards and Guidelines, and implementation of the Wilderness Area Implementation Schedules

UNROADED AREAS

ABSTRACT

There are 53 roadless/undeveloped areas adjacent to Wilderness Areas on the RGNF, totaling 530,722 acres These areas account for about 27% of the Forest's total acreage These large tracts of roadless areas can be managed.

* as potential Wilderness Areas,

* for nonmotorized and limited motorized (trails) recreation outside Wilderness,

* as Research Natural Areas or Special Interest Areas, or

* for other resource activities

Management-Area Prescription allocations vary by Alternative for these roadless areas and undeveloped areas adjacent to Wilderness In Alternatives B, D, NA, F, and G, some areas are projected to be entered for either timber harvest or oil and gas leasing, or both Alternatives A and E would see little change in their unroaded character

INTRODUCTION

Legal Framework

Section 219 17 of 36 CFR 219 says that "(a) Unless otherwise provided by law, roadless areas within the National Forest System shall be evaluated and considered for recommendation as potential Wilderness Areas during the Forest planning process "

RGNF Roadless Area Assessment

Unroaded areas are generally characterized as areas that

* are relatively undisturbed by human activity, where natural ecological processes are unimpaired,

* offer unconfined types of recreational opportunities, solitude, and self-reliance,

* possess special features or ecosystems, and

* can be managed to retain their natural characteristics

On the RGNF, roadless areas are defined as either larger than 5,000 acres, or smaller than 5,000 acres, but with the following characteristics

* manageable in their natural conditions, because of physiography or vegetation,

* self-contained ecosystems, or

* next to existing Wilderness, WSAs, or roadless areas in other federal ownership, whatever the size.

Several identified roadless areas adjoin or are near other National Forest or Bureau of Land Management lands Following coordination with the San Juan NF, Grand Mesa, Uncompahgre and Gunnison NFs, and the Montrose and Canon City BLM offices, specific roadless areas were identified which will be included in the RGNF's assessment of roadless areas These include the Monchego, Mineral Mountain, Middle Fork, and Carson Peak areas on the Gunnison NF, and the Handies Peak WSA recommendation on the Montrose District of the BLM

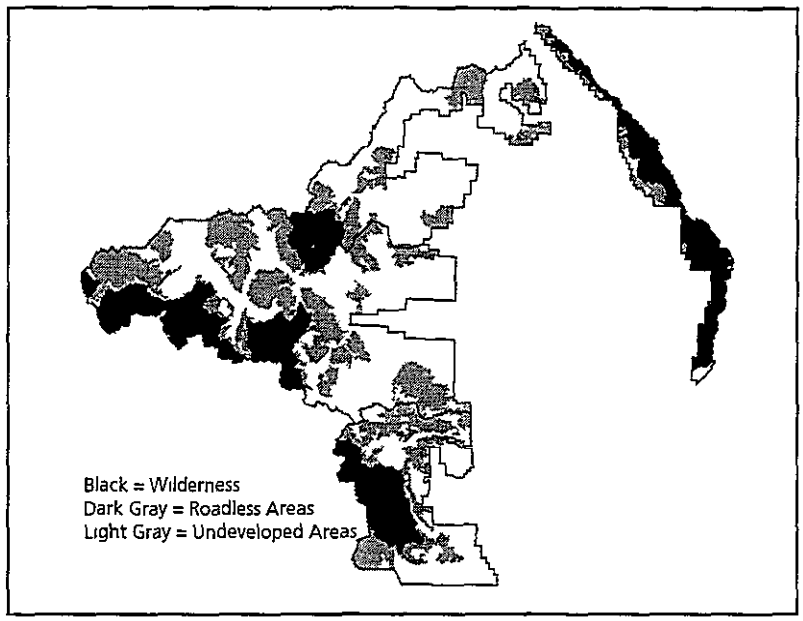


Figure 3-92 Wilderness, Roadless, and Undeveloped areas on the RGNF

Evaluation of each identified roadless area was based on the area's capability characteristics (six attributes), manageability characteristics (three attributes), and the need for additional areas in the NWPS The evaluation helped determine whether these areas were recommended for Wilderness or were better suited for allocation to other management emphasis

The Forest identified 53 roadless areas, totaling 530,722 acres (Figure 3-92) (See Appendix B for descriptions of the areas.)

AFFECTED ENVIRONMENT

Approximately 22% of the Forest's land base is Wilderness Roadless areas account for another 27% of the Forest's land base. These large tracts of roadless areas can be managed

* as potential Wilderness Areas,

* for nonmotorized and limited motorized (trails) recreation opportunities outside Wilderness,

* as RNAs or Special Interest Areas, or

* for other resource activity emphasis

The Rocky Mountain Region's *Wilderness Needs Assessment* (Carr 1994) shows 14 of the Region's 21 LTAs are represented in the NWPS The assessment further states the RGNF could provide additional Wilderness in the following LTAs that are minimally represented in the NWPS Western Wheatgrass and Other Low-elevation Grasslands on Alluvial Fans, Arizona Fescue on Mountain Slopes, Pinyon on Mountain Slopes, Ponderosa Pine and Douglas-fir on Mountain Slopes, and White Fir and Douglas-fir on Mountain Slopes

The Forest does contain portions of these underrepresented LTAs mentioned in the Regional needs assessment These are relatively small areas (Western wheatgrass - Areas 0209DI - 0 2% of the total acres, Arizona fescue - Areas 020951, 020954, 020959 & 020975 - 16 4% of the total acres and Pinyon - Areas 0209B8 & 0209C6 - 31 3% of the total acres), in comparison to the overall landscape, and do not comprise the dominant composition Both the Park Service (seven areas containing 612,193 acres) and the Bureau of Land Management (18 WSA's, 395,792 acres) contain low-elevation LTAs that are better suited to meet this Regional need

Table 3-78 Roadless Area Evaluation

AREA NUMBER	AREA NAME	Acreage
020901	Chama Basin	21,729
020903	Cumbres	10,566
020906	Spruce Hole / Sheep Creek	7,697
020907	Fox Creek	6,109
020911	Conejos River / Lake Fork	869
020912	Summit Peak / Elwood Pass	3,259
020913	Stunner Pass / Dolores Canyon	2,944
020914	Wightman Fork to Lookout	5,965
020920	Silver Lakes / Stunner	6,017
020923	Tobacco Lakes	3,418
020925	GoldCreek / Cascade Creek	865
020931	La Garita	12,146
020946	Tewksberry	6,663
020948	Fox Mtn	7,780
020949	Gibbs Creek	1,729
020950	Kitty Creek	1,427
020951	Wason Park	20,972
020954	Snowshoe Mtn	31,766
020955	Red Mtn	4,191

020956	Copper Mtn / Sulphur	5,325
020957	Ruby Lake	6,987
020959	Pole Mtn /Finger Mesa	43,878
020960	Big Buck / Kitty / Ruby	9,763
020961	Beartown	2,411
020964	Box / Road Canyon	1,259
020975	Bristol Head	46,410
020978	Lower East Bellows	1,804
0209A2	Sawlog	10,535
0209A5	Sheep Mtn	3,216
0209A7	Lake Fork	10,804
0209A8	Fourmile Creek	10,487
0209A9	Taylor Canyon	6,060
0209B3	Antora Meadows/Bear Cr	22,861
0209B8	Ute Pass	9,068
0209B9	Elkhorn Peak	10,808
0209C2	Dorsey Creek	4,435
0209C3	Butterfly	2,695
0209C4	Miller Creek	1,202
0209C5	Cotton Creek	2,180
0209C6	Crestone	7,895
0209C7	Pole Creek	1,818
0209C8	Hot Springs	488
0209DA	Trout Mountain/Elk Mountain	31,847
0209DE	Beaver Mountain	7,139
0209DI	Middle Alder	5,742
0209M1	Wightman Frk/Upper Burro	7,185
0209M2	Bennet Mtn /Blowout/Willow Crk/Lion Pnt/Greenie Mtn	52,882
0209M3	Deep Creek/Boot Mtn	28,904
0209P1	Spectacle Lake	822
0209Q2	Willow Mountain	9,948
0209Q3	Alamosa River	5,063
0209RA	Sulphur Tunnel	1,859
0209RE	Indian Ridge	1,609
TOTAL Acreage		**530,722**

(Refer to Appendix B for the Roadless Area evaluation documentation, description summaries, and rating matrix)

Backcountry Areas

There are roughly 1,500 miles of inventoried trails on the Forest A Forest Interdisciplinary team assessed all inventoried trails in the areas on the Forest allocated to the Backcountry Prescription (in Alternative G), for the purpose of establishing which ones should be motorized or nonmotorized The following criteria were used in making this determination

*	Resource Concerns	Wildlife (calving areas, TES species), riparian (wetlands), soils, and steep slopes
*	Access Concerns	Private-access problems, alternate routes, and access to Wilderness
*	Other Concerns	Trails currently closed, TES plant and animal species, previous environmental analysis, and trail maintenance

(Refer to the Travel Management section in this chapter for details regarding travel restrictions)

As a result of this assessment, the Forest will manage Backcountry areas for 145 8 miles of trails available for nonmotorized use (54% of the area allocated to the Backcountry Prescription in Alternative G in the Semi-Primitive Nonmotorized ROS setting) and 153 4 miles of trails available for motorized use (46% of the Backcountry Prescription in Alternative G in the Semi-primitive Motorized ROS setting) The amount of Backcountry area in nonmotorized and motorized ROS settings was determined using "motorized-influence zones" (sights and sounds of motorized vehicles are noticeable) These influence zones include ½-mile corridors on either side of inventoried motorized Forest trails in the Backcountry areas, and ½-mile corridors (both sides) on Forest roads outside but adjacent to Backcountry areas

There are some 1,795 miles of unimproved roads (Level 4) on the Forest available for motorized users

The Forest also took a look at areas on the Forest used by snowmobilers With the exception of the Cumbres area, Lobo area, Wolf Creek Pass, and Snow Mesa, the majority of the snowmobile use on the Forest takes place on groomed roads and trails A few of these routes are in Backcountry areas, but the majority occur in other Management Prescription areas

We reviewed the literature related to snowmobile use and impacts, and these studies either were irrelevant to the Forest or did not substantiate a need to place restrictions (beyond those already in place) on snowmobile use Snowmobiles are restricted in deer and elk winter range areas and bighorn sheep areas, to identified roads and/or trails

The Forest will therefore maintain its current policy on snowmobile use

ENVIRONMENTAL CONSEQUENCES

Direct and Indirect Effects

Table 3-79 shows the Management Prescription allocations by Alternative for the 53 roadless areas on the Forest

Table 3-79. Disposition of Roadless Areas by Alternative

PRESCRIP-TION NO.	UNROADED AREAS / CORE AREAS						
	Alt. A	Alt. B	Alt. D	Alt. E	Alt. F	Alt G	Alt NA
1 2	470,696			101,687	162,519		
1 2/1 5	109				2,519		
1 2/2 2	5,447				3,697		
1 2/3 4	1,982				239		
1 31	12,356	108,740		263,424	20,582		53,977
1 32			286,711				
1 41					267,448		
1 5	2,412	2,519	2,519	2,519		107	
2 1			961	1,068			
2 2		5,527	5,638	5,543	1,830	5,543	
3 1	437	6,007	11,176	8,961	308	9,706	
3 21					14,100		
3 22					17,690		
3 3						427,759	
3 31	8,003	86,102	53,999	66,073	4,716		14,262
3 4	50	2,032	2,220	2,129	1,981	4,277	
3 55					7,811		
3 56							30,1668
4 21	134	29	1,461	70	119	458	
4 3	2,927	17,426	15,348	14,429	3,657	7,471	
4 4	2,343	3,270	3,270	3,256	1,106	3,270	1,058
5 11	7,787	132,761	60,640	24,440	5,112	16,241	
5 13		95,484	30,194			10,763	76,910
5 21							86,434
5 41	11,531	35,216	19,689	17,177	8,253	12,723	62,739
5 42	4,508	18,084	23,831	17,469	7,035	17,303	102,644
6 6		17,525	13,065	2,477		15,101	102,530

In Alternatives B, D, NA, and G, the Recreation and Wildlife resource allocations will not affect the unroaded character of these areas In Alternative F, the Core Areas, Limited Use areas, and Recreation and Wildlife Areas will not affect the unroaded character of these areas

The General Forest and Rangeland, Forest Products and Rangeland Production allocations will not directly affect the character of these roadless areas until a planned management activity (e g , road construction, vegetative treatment, or large prescribed fire) is scheduled Management activities that change the unroaded character of these areas would require an Environmental Assessment, (or depending on the issues, an Environmental Impact Statement (EIS) and Record-of-Decision Memo (ROD), before any planned activity

In Alternative A, a majority of the roadless areas (90%) are recommended for inclusion into the NWPS, adding another 25% of the Forest's land base to Wilderness management This means about 47% of the Forest would be allocated to Wilderness and recommended Wilderness Inclusion of these areas in the NWPS would directly affect how they are managed, and increase the need for more personnel to manage and monitor the Forest's Wilderness resources Existing Wilderness Implementation Schedules would need to be revised, or new ones written, to include all the roadless areas recommended for Wilderness Including a majority of these roadless areas into the NWPS does not substantially add to the number of underrepresented LTAs needed within the Region

Effects on Roadless Areas from Recreation Settings

In Alternatives B and D, there will be a decrease in Backcountry Nonmotorized and Motorized settings (Alt B - 11% change, Alt D - 7% change), compared to the Modified Roaded setting, because of those roadless areas projected to be entered for timber harvest This is the maximum amount of change that would occur Depending on the decision that results from the necessary analysis work, the number of acres affected and actual change in ROS settings could be significantly less

In Alternatives A, E, and F, there will be an increase in the number of acres (22% change for Alternative A, 19% for E, and 32% for F) associated with the Primitive setting from the Backcountry Nonmotorized and Motorized settings, because of all the roadless areas being recommended for Wilderness This will have a direct effect on the amount of Backcountry Nonmotorized and Motorized settings outside Wilderness

Effects on Roadless Areas from Recreation Management and Travel Management

(For indirect and direct effects from recreation use (dispersed recreation), please refer to the Developed and Dispersed Recreation section of this chapter for more detailed information)

Travel Management Effects

In Alternative NA, 12% of the roadless areas would be managed for nonmotorized-recreation opportunities This would require a change in the Forest's existing travel management plan, to prohibit motorized travel within those areas to be managed for

nonmotorized recreation Eighty-eight (88%) of the roadless areas would be managed for motorized recreation Motorized-travel restrictions would be based on our existing travel management plan. (See the Travel Management section in this chapter for more detailed information and the travel-management restrictions by Alternative)

In Alternatives A (90%), E (19%), and F (54%), varying amounts of the roadless areas recommended for Wilderness (as indicated by the percentage figures) would be managed for nonmotorized-recreation opportunities. All trail use is restricted to hikers, horses, llamas, and mountain bikers only.

In Alternatives B, D, and G, 24%, 67%, and 54% of the roadless areas, respectively, would be managed for nonmotorized recreation Trail use would be restricted to hikers, pack and saddle stock, and mountain bikers only. Within these same Alternatives, 76%, 33%, and 46% of these roadless areas, respectively, are managed for motorized recreation Motorized travel is restricted to designated Forest trails

Effects on Roadless Areas from Range Management

Annual allotment operating instructions can address adjustments in the management of livestock, to mitigate certain recreation conflicts or issues on management of livestock, issues on allotments in roadless areas Issues related to livestock numbers, on-off dates, or possible removal of allotment pastures will have to be addressed when allotments are scheduled for analysis and new Allotment Management Plans written

In Alternatives NA, B, D, and G, allotments are scheduled for analysis, and new management plans will be written to determine the need for extensive grazing systems, adjustments of on-off dates, and/or reductions of permitted AUMs on allotments in roadless areas. Alternatives A and E will require that extensive grazing systems be implemented on allotments in roadless areas, but limit the time livestock are allowed to graze This will reduce the number of AUMs permitted Alternative F, because of the proposed utilization standards, significantly reduces the AUMs within Core Reserve and Limited Use Areas, and would eventually phase out grazing on allotments

Effects on Roadless Areas from Timber Management

In Alternatives B, D, NA, E, F, and G, suitable timber lands were calculated for those roadless areas allocated to Forest Products or General Forest and Rangeland Management Prescriptions

Under Alternatives A and E, no timber will be harvested in any of the roadless and undeveloped areas (adjacent to Wilderness) under the full- or experienced budget levels There would be no effect on or change in the character of the roadless areas

Alternative B: Using the FORPLAN model and at the full-budget level, Areas 0209M2 and 0209M3 (78 acres) would be entered (using existing roads) to harvest timber in the first decade, which would affect 0 09% of these areas (81,786 total acres) In the second decade, Area 0209M3 (157 acres) would be entered (again on local roads) to harvest timber, which would affect 0 3% of this area's 52,882 total acres During the third decade, the model projects Areas 0209M2, 0209M3, 0209Q2, and 0209Q3 (4 253 acres) to be entered

(on newly constructed roads) to harvest timber, which would affect 4 4% of these areas' 96,797 total acres

Based on financing and costs of doing EISs/RODs, at the full-budget level, actual implementation within the next two decades could result in no timber being harvested from any of the roadless/undeveloped areas, or possibly entering (using newly constructed roads) as many as four areas (020948, 020956, 0209A7, and 0209Q2 -- 14,453 acres) to harvest timber, which could affect 43% of these areas' 33,857 total acres

At the experienced budget level and using the FORPLAN model, Area 020948 (415 acres) would be entered (on local roads) to harvest timber in the first decade, which would affect 5 3% of this area's 7,780 total acres In the second decade, Area 0209M3 (213 acres) would be entered (using local roads) to harvest timber, which would affect 0 4% of this area's 52,882 total acres During the third decade, the model projects that Areas 020948, 0209DA, 0209M2, and 0209Q2 (2,376 acres) would be entered (on newly constructed roads) to harvest timber, which would affect 3% of these areas' 78,479 total acres

Alternative D: Using the FORPLAN model and at the full-budget level, Areas 020949, 020957, and 020975 (558 acres) would be entered (on local roads) in the first decade to harvest timber, affecting about 1 1% of these areas' 55,126 total acres In the second decade, no roadless or undeveloped area is projected to be entered During the third decade, Areas 020913, 020914, 020957, 020964, 020975, 0209A7, 0209B3, 0209C2, 0209DA, 0209M3, and 0209Q3 (7,434 acres) would be entered (using newly constructed roads) to harvest timber, affecting 3 4% of these areas' total acres

Given the financing and costs of EISs/RODs, at the full-budget level, actual implementation within the next two decades could result in no timber being harvested from any of the roadless/undeveloped areas, or possibly entering (with new road construction) three areas (020957, 0209A7, and 0209B3 -- 12,704 acres) to harvest timber, which would affect 31% of these areas' 40,562 total acres

At the experienced budget level, no roadless/undeveloped area would be entered to harvest timber, so these areas' roadless character would not be affected

Alternative F: The FORPLAN model at the full-budget level indicates that, during the first and second decades, no roadless/undeveloped areas would be entered to harvest timber, thus these areas' roadless character would be unaffected During the third decade, Area 0209C2 (600 acres) would be entered (using newly constructed roads) to harvest timber, affecting 13 5% of this area's 4,435 total acres

At the full-budget level, based on financing and costs of doing EISs/RODs, actual implementation within the next two decades could result in no timber being harvested from any of the roadless/undeveloped areas, or possibly entering (on newly constructed roads) two areas (020913 and 0209C2 -- 2,723 acres) to harvest timber, which would affect 37% of these areas' 7,379 total acres

Alternative G: The FORPLAN model at the full-budget level indicates Areas 020949 and 020975 (295 acres) would be entered (via newly constructed roads) during the first decade to harvest timber, affecting 0 6% of these areas' 48,159 total acres In the second decade, Area 0209C2 (460 acres) would be entered (again using newly constructed roads) to harvest

timber, affecting 10 4% of this area's 4,435 total acres During the third decade, the model indicates five areas (020949, 020975, 020978, 0209A7 and 0209C2 -- 2,307 acres) would be entered (on newly constructed roads) to harvest timber, affecting 3 5% of these areas' 65,202 total acres

Based on financing and costs of doing EISs/RODs, at the full-budget level, actual implementation within the next two decades could result in no timber being harvested from any of the roadless/undeveloped areas, or possibly entering (using newly constructed roads) two areas (020975 and 0209A7 -- 5,502 acres) to harvest timber, affecting 9 6% of these areas' 57,214 total acres

At the experienced budget level, the FORPLAN model indicates no roadless/undeveloped areas are to be entered to harvest timber, so these areas' roadless character would not be affected

Given financing and costs of EISs/ROD's at the experienced budget level, actual implementation within the next two decades could result in no timber being harvested from any of the roadless/undeveloped areas, or possibly entering (on newly constructed roads) one area (0209A7 -- 2,882 acres) to harvest timber, which would affect 26.7% of this areas 10,804 total acres

Alternative NA: The FORPLAN model, at the full-budget level, indicates Areas 020920, 020948, 020954, 020975, 0209C2, 0209DA, 0209M2, and 0209M3 (2,412 acres) would be entered (on newly constructed roads) in the first decade to harvest timber, affecting 1 1% of these area' 210,041 total acres In the second decade, areas 020931, 020954, 020975, 0209DA, 0209M2, and 0209M3 (2,466 acres) would be entered (on newly constructed roads) to harvest timber, affecting 1.2% of these areas' 203,955 total acres. During the third decade, the model indicates eighteen areas (020903, 020914,020920,020931, 020954, 020964, 020975, 0209A5, 0209A7, 0209B3, 0209C2, 0209C5, 0209DA, 0209DI, 0209M1, 0209M2, 0209M3, and 0209Q2 -- 13,107 acres) would be entered (using newly constructed roads) to harvest timber, affecting 4.5% of these areas' 294,133 total acres

Given the financing and cost to do EISs/ROD's, at the full-budget level, actual implementation within the next two decades could result in no timber being harvested in any of the roadless/undeveloped areas, or possibly entering (on newly constructed roads) as many as four areas (020948, 020975, 0209A7, and 0209DI -- 10,020 acres) to harvest timber, affecting 13 3%of these areas' 75,102 total acres

At the experienced budget level, FORPLAN indicates Area 020948 (298 acres) would be entered (via newly constructed road) to harvest timber, which would affect 3 8% of this area's 7,780 total acres In the second decade, Area 0209M3 (189 acres) would be entered (on newly constructed roads) to harvest timber, affecting 0 7% of this area's 28,904 total acres During the third decade, the model indicates four areas (020913, 020948, 020949, and 0209M3 -- 368 acres) would be entered (using newly constructed roads) to harvest timber, affecting 0 9% of these areas' 41,357 acres.

Given the financing and cost to do EISs/RODs, at the experienced budget level, actual implementation within the next two decades could result in no timber being harvested from any of the roadless/undeveloped areas, or possibly entering (on newly constructed roads)

two areas (020948 and 0209M3 -- 6,332 acres), which would affect 17 2% of these areas' 36,684 total acres

Effects on Roadless Areas from Mineral Exploration

Alternative F has the most acreage withdrawn from mineral entry (75%), and the least acreage available for it (25%)

Alternative A has 48% of the Forest's acreage (unroaded areas and Wilderness) withdrawn from mineral entry, and 52% open to it

Alternatives B, D, E, and NA have about 65% - 70% of the Forest's acreage open to mineral entry, with the remaining acreage withdrawn (Wilderness, recommended Wilderness, and Backcountry Nonmotorized areas) In Alternatives NA, B, D, and E, effects on the roadless areas should be minimal if the required mitigation measures outlined in the operating plans are followed

In Alternative G, no large blocks of roadless areas will be withdrawn from mineral entry, which--depending on the number of areas entered for mineral exploration and future development--could result in changes in some of the roadless areas Implementation of operating plans and required mitigation measures should keep impacts to a minimum (Refer to the Minerals section in this chapter for more detailed information regarding mineral exploration and development)

Wilderness Areas are not available for mineral entry unless valid claims existed prior to December 31, 1983

CUMULATIVE EFFECTS

In Colorado and the northern portion of New Mexico, at the Province level, there are 40 designated Wilderness Areas, totaling 3,592,000 acres and 5,826,000 acres of undeveloped areas within various Congressional designations (National Parks, Monuments, or Recreation Areas), and roadless areas (Forest Service and Bureau of Land Management lands)

Within the Tri-Section level (the southern one-third of Colorado and northern one-third of New Mexico), there are 15 designated Wilderness Areas totaling 1,555,624 acres and 2,089,339 acres of undeveloped areas within various Congressional designations (National Parks, Monuments, and Recreation areas) and roadless areas (Forest Service and Bureau of Land Management lands)

The RGNF has portions of four Wilderness Areas totaling 430,300 acres and 53 roadless areas totaling 530,722 acres The Wilderness Areas account for about 22% of the Forest's total acreage, and 2% of the Region's total Wilderness acreage Roadless/Undeveloped areas on the Forest account for another 27% of the Forest's acreage The Park Service and Bureau of Land Management WSAs are capable of providing the lower-elevation LTAs needed in Wilderness Areas outlined in the Region's *Wilderness Needs Assessment*

The Forest's ability to provide a mix of nonmotorized- and motorized-recreation settings and opportunities is very good, given the large amount of roadless areas on the Forest.

Alternatives B, D, and G have numerous roadless/undeveloped areas allocated to nonmotorized and motorized recreation outside Wilderness Areas Alternatives A, F, and E recommend a majority of the roadless areas for inclusion in the NWPS, with limited availability of nonmotorized- and motorized-recreation opportunities outside Wilderness

Alternatives NA, B, D, and G, at the full budget and experienced budget levels, could result in changes in several of the roadless areas, because of possible timber harvest and oil and gas exploration and development At the full-budget level, Alternative F results in changes to a few roadless areas, because of possible timber harvests At the experienced budget level, there are no effects on any of the roadless areas

In Alternatives A and E, at the full or experienced budget level, there are no effects on any of the roadless areas, either from timber harvesting or oil and gas exploration

WILD AND SCENIC RIVERS

ABSTRACT

In 1982, the Secretary of Agriculture recommended to Congress designation of 36 8 miles of the Conejos River for inclusion in the National Wild and Scenic River System (25.6 miles as Wild and 11 2 miles as Recreation). The Conejos River has not yet been formally designated

At the beginning of the Forest Plan Revision process, 443 Forest streams were evaluated for their eligibility for inclusion into the National System Results of the process were

* Four hundred and twenty-nine (429) stream or stream segments totaling about 1,764 stream miles were found not to be eligible

* Fourteen streams or stream segments, totaling 126 miles in length, were found eligible Potential classification is 42 5 miles as Wild, 47 2 miles as Scenic, and 36 3 miles as Recreational

In all Alternatives, the 14 streams are determined to be eligible.

Wild Rivers

North Fork Conejos River, Middle Fork Conejos River, El Rito Azul, Toltec Creek, Hansen Creek, Saguache Creek

Scenic Rivers

Archuleta Creek, West Fork Rio Chama, East Fork Rio Chama, Lower Rio de los Pinos, portions of Medano Creek, Little Medano Creek, portions of South Fork Rio Grande, Rio Grande (Box Canyon), West Bellows

Recreation Rivers

Medano Creek, South Fork Rio Grande, Lower Rio Grande River, and Conejos River

Management-Area Prescriptions will protect the river character and resources until suitability studies are undertaken The Alternatives have no effect on the eligible Wild and Scenic Rivers Non-designation would not affect the amount of dispersed or river-related recreation uses on the Forest, but would represent a lost opportunity to have representative streams in Colorado as part of the National Wild and Scenic River System

INTRODUCTION

Legal Framework

The *Wild and Scenic Rivers Act*, as amended (December 31, 1992) and Forest Service Handbook 1909 12, Chapter 8, direct the Forest Service to evaluate rivers, during forest planning, for inclusion in the National Wild and Scenic River System

River Assessments on the RGNF

The assessment of a river's potential as a Wild and Scenic River is a three-step process:

* determination of eligibility,

* potential classification (Wild, Scenic, or Recreational), and

* determination of suitability

Steps 1 and 2 were completed for the RGNF Forest Plan Revision The guidelines allow latitude in how river studies can be accomplished Forest Service Handbook 1909 12 (8 14) states " An Alternative is to delay the suitability determination on eligible rivers until a subsequent separate study is carried out The Plan must provide for protection of the river area until a decision is made as to the future use of the rivers and their adjacent lands "

The rationale for delaying the suitability study is twofold First, suitability studies are expensive In 1979, the *Conejos River Wild and Scenic River Study* was completed, and the river was recommended to Congress for inclusion in the National Wild and Scenic River System This study cost between $300,000 and $400,000; the Conejos River has yet to be formally designated by Congress

In our plan revision, 14 eligible streams are recommended as potential Wild and Scenic Rivers The cost of the studies would range from$300,000 to $1,000,000 depending on the number of studies done It seems prudent to delay these suitability studies until there is Congressional interest to act on the recommendations, or some action is proposed that would change the river's free-flowing nature And, until strong grassroots support is shown for all or key eligible streams and this support shown to Congress, river studies will be delayed

Management-Area Prescriptions have been assigned to the eligible rivers to protect their river characteristics and values

In July 1979, the Forest Service and State of Colorado recommended to the Secretary of Agriculture that 38 8 miles of the Conejos River be designated for inclusion in the National Wild and Scenic River System (25 6 miles as Wild and 13 2 miles as Recreational) In 1982, the Secretary of Agriculture recommended to Congress that 36 8 miles of the same river be designated for inclusion in the System (25.6 miles as Wild and 11 2 miles as Recreational) As mentioned above, the Conejos River has yet to be formally designated, but will continue to be managed and protected until its disposition is decided A copy of the *Conejos Wild and Scenic River Study - Final Environmental Impact Statement* is available at the Rio Grande National Forest Supervisor's Office.

All Forest rivers and streams were assessed in 1994, to determine which were eligible (including potential river classification) for inclusion into the National Wild and Scenic River System

There were 443 streams reviewed and evaluated for their eligibility determination These streams encompass about 1,890 stream miles on the Forest Results of the evaluation process are

* Four hundred and twenty-nine (429) stream or stream segments, totaling about 1,764 miles, were found not to be eligible for inclusion.

* Fourteen (14) streams totaling 126 miles were found eligible

(The river summary and assessment sheets are available on request from the RGNF Headquarters.)

AFFECTED ENVIRONMENT

As mentioned, 14 streams or stream segments, totaling 126 miles in length, were found eligible for inclusion into the National Wild and Scenic River System The potential classification is 42 5 miles as Wild, 47 2 miles as Scenic, and 36 3 miles as Recreational

To the extent the Forest Service is authorized under law to control stream impoundments and diversions, the free-flowing characteristics of the study river cannot be modified by new structures that were not part of conditions when eligibility was determined.

Current water-use and stream-protection agreements made through negotiation with local water users will continue (See *Wild and Scenic Rivers Act* P L 90-542m as amended SEC 10(e), SEC 12(b) and SEC. 13(b) for further details)

The types of classification are

Wild: Rivers or sections of rivers that are free of impoundments, with watersheds or shorelines essentially primitive, generally inaccessible except by trail, with undisturbed landscapes

Scenic: Rivers or sections of river that are free of impoundments, with watersheds or shorelines still largely primitive and undeveloped, can be accessible in places by inconspicuous, well-screened local roads.

Recreational: Rivers or sections of river that are readily accessible by road or railroads, and have some degree of development along their shoreline where minor structures are allowed, provided the waterway generally remains natural in appearance

Table 3-80 shows which streams/rivers are eligible for inclusion in the National Wild and Scenic River System

Table 3-80. Rivers Eligible for Inclusion into the W&SR System

Stream or River Name	Length (Miles)	Outstandingly Remarkable Values	Classification
Lower Rio de los Pinos	7 5	Scenic, Recreational, Historic	Scenic
Toltec Creek	2 7	Scenic, Recreational, Historic	Wild
Archuleta Creek	5 35	Scenic, Recreational	Scenic
East Fork Rio Chama	2 05	Scenic, Recreational	Scenic
West Fork Rio Chama	3 5	Scenic, Recreational	Scenic
Hansen Creek	6 35	Scenic, Recreational	Wild
Medano Creek	8 45	Recreational, Fishery	Scenic/Recreation
Little Medano Creek	2 95	Scenic, Geologic	Scenic
South Fork Rio Grande	18 65	Scenic, Recreational, Historic	Scenic/Recreation
Rio Grande (Box Canyon)	8 0	Scenic, Recreational, Historic	Scenic
West Bellows Creek	10 75	Scenic, Recreational, Geologic	Scenic
Lower Rio Grande River	5 0	Scenic, Recreational, Historic	Recreational
Saguache Creek	7 8	Scenic, Historical, Cultural	Wild
Conejos River	36 8	Scenic, Recreational, Wildlife	Wild/Recreation

RESOURCE PROTECTION MEASURES

The following resource protection measures will be used in potential classifications, to specify interim management direction for the eligible rivers These eligible rivers now become study rivers under Section 5 (d)(1) of the *Wild and Scenic Rivers Act* The study river corridors comprise an area that extends 1/4 mile on each side of the mean high water mark Pending the outcome of a suitability analysis, the rivers and adjoining study corridor are included in a special Management-Area (Wild River, Scenic River, or Recreation River) under the Forest Plan.

The Management-Area Prescriptions ensure additional protection to preserve the characteristics that made the river eligible for potential Wild and Scenic designation This includes protection of the free-flowing character and "outstandingly remarkable values " The Prescriptions apply until replaced by a River Management Plan after designation, or until the segment is found not suitable for designation In the latter case, the management of the area is released from special protection and reverts to the Forest Plan Management-Area in which the river corridor lies

WILD RIVERS

* ***Timber Production:*** Cutting of trees will not be allowed unless needed to meet management objectives (trail clearing or fire control)

* ***Water Supply/Flood Control:*** No major diversions or other structures allowed in the channel or river corridor

* ***Mining:*** New mining claims and mineral leases are prohibited within one-quarter mile of the river Valid claims would not be abrogated. Existing mineral activity must be conducted to minimize surface disturbance, sedimentation, and visual quality Reasonable access is allowed

* ***Road Construction:*** No roads or overland motorized travel allowed within one-quarter mile of the river.

* ***Recreation Development:*** Major public-use sites (campgrounds, interpretive centers, administrative buildings) are located outside the Wild river corridor.

* ***Utilities:*** New transmission lines, gas lines, and water lines are discouraged Where no reasonable Alternative exists, additional or new facilities should be restricted to existing rights-of-way

* ***Motorized Travel:*** Motorized travel is prohibited.

SCENIC RIVERS

* ***Timber Production:*** Silvicultural practices may be allowed within the river corridor provided such practices do not have substantial adverse effects on the river or the corridor landscape Timber outside the river corridor is managed and harvested with a special emphasis on visual quality

* ***Water Supply/Flood Control:*** Major diversions and flood-control dams are prohibited

* ***Mining:*** Subject to regulations 36 CFR 228, new mining claims and mineral leases could be allowed and existing operations allowed to continue, provided mineral activities minimize surface disturbance, sedimentation, and pollution, and maintain the visual character of the landscape

* ***Road Construction:*** Roads may occasionally bridge the river area Short, conspicuous road stretches, or longer, inconspicuous and well-screened road stretches could be allowed

* ***Recreation Development:*** Public-use sites (moderate-sized campgrounds, visitor centers, or administrative facilities) are allowed, provided they are outside the river floodplain and screened

* ***Utilities:*** New transmission lines, gas lines, or water lines are discouraged Where no reasonable Alternative exists, additional or new facilities are restricted to existing rights-of-way

* ***Motorized Travel:*** Allowed, but restricted to approved roads

RECREATION RIVERS

* ***Timber Production:*** Timber harvesting is allowed, with restrictions to protect the river and its immediate landscape, water quality, scenery, fish and wildlife, and other values

* ***Water Supply/Flood Control:*** Existing diversion works, rip-rap, or flood control works are allowed, provided the stream corridor remains generally natural in appearance and the structures are maintained New structures are prohibited.

* ***Mining:*** Subject to regulations 36 CFR 228, new mining claims and mineral leases are allowed, and existing operations are allowed to continue, with restrictions on protecting the river values. Mineral activity must be conducted so that surface disturbance, sedimentation, and pollution is minimized, and visual quality is maintained

* ***Road Construction:*** Parallel roads could be constructed on one or both sides of the river corridor Bridge crossings and river access points are allowed

* ***Recreation Development:*** Campgrounds and picnic areas may be constructed outside the river's floodplain Extensive recreational development is discouraged

* ***Utilities:*** New transmission lines, gas lines, and water lines are discouraged Where no reasonable Alternative exists, additional or new facilities should be restricted to existing rights-of-way

* ***Motorized Travel:*** Motorized travel is restricted to existing roads

ENVIRONMENTAL CONSEQUENCES

Actions Common to All Alternatives

In all Alternatives (except the No Action Alternative), 14 streams totaling 126 miles have been determined to be eligible for inclusion in the National Wild and Scenic River System

River Management Prescriptions have been assigned to these 14 streams to protect their river character and resources

Direct and Indirect Effects

Any proposed activities within these river corridors that would significantly change the character of the river or its resources would require a River-suitability Study Inclusion of any one or all 14 eligible streams in the National Wild and Scenic River System would require the writing of a River-Management Plan The river Management Prescriptions (Wild, Scenic or Recreational) assigned to these river corridors place management constraints on the activities that can take place within them

Indirect effects associated with the Wild and Scenic River resource are as follows

Effects on Eligible Rivers from Range Management

All eligible Wild, Scenic, and Recreation River corridors will affect the grazing system (extensive use of lighter grazing) used on the grazing allotments within the river corridors Riparian areas and wetlands will be protected This will influence the length of time livestock are allowed within the river corridor and may affect the number of livestock allowed to graze there.

Forestwide Standards and Guidelines and Management-Area Standards and Guidelines will be implemented to protect the river-corridor resources Scheduled allotment analysis, management plans, and monitoring plans will determine livestock-grazing changes for those allotments within river corridors

Effects on Eligible Rivers from Recreation Use

Eligible Wild and Scenic River corridors, both inside and outside Wilderness, would limit recreation opportunities to nonmotorized, dispersed activities Activities which have direct effects on the stream or river would be restricted

Both dispersed and developed recreation opportunities would be available within Recreation River corridors, provided the river corridor is protected and not altered Motorized use would be restricted to designated roads and trails

(Refer to the Developed and Dispersed Recreation section for details regarding effects on dispersed recreation)

Forestwide Standards and Guidelines and Management-Area Standards and Guidelines will be implemented to minimize recreation impacts Monitoring of river corridors is planned, to determine if significant changes of the river-corridor resources are taking place resulting from recreation use, and whether further management action is needed

Effects on Eligible Rivers from Timber Management

Eligible Scenic and Recreation river corridors allow vegetative treatment of timber stands, as long as the treatment meets recreation or scenery Objectives. Most vegetative treatment would be for hazard tree removal or scenery enhancement, and/or would be associated with a natural disturbance (fire, windstorm, or insect and disease infestation) Vegetative treatments outside all river corridors can be accomplished with an emphasis on meeting scenery Objectives

Effects on Eligible Rivers from Travel Management

Eligible Wild and Scenic River corridors emphasize nonmotorized recreation Motorized use in eligible Wild River corridors is prohibited Motorized travel can occur within eligible Scenic and Recreation River corridors, but is restricted to existing trails and/or roads

There can be road and trail construction in the Recreation River corridor, provided it meets resource management objectives Winter snowmobile use is allowed only within eligible Recreation River corridors, and travel is restricted to existing roads and trails

Effects on Eligible Rivers from Mineral Exploration and Extraction

Under all Alternatives, eligible Wild Rivers will be withdrawn from mineral entry Existing valid mining claims and new mining claims within eligible Scenic and Recreation River corridors are allowed, with restrictions that protect the river resources

Depending on the Alternative, there are various leasing Stipulations that apply to eligible Wild, Scenic, and Recreation River corridors

Eligible Wild River corridors are closed to leasing in Alternatives NA, A, D, E, F, and G Under Alternative B, oil and gas leasing could be allowed either (1) under option B1 (Standard Lease Terms), which would have some effect on the character of the river-corridor landscape, or (2) under option B2, which allows leasing, but No Surface Occupancy (NSO) This option does not affect the river resources

Eligible Scenic and Recreation River corridors, are closed to leasing in Alternatives A and F This does not affect the river resources

In Alternatives D, E, and G, oil and gas leasing is allowed, with the use of Controlled Surface Occupancy Stipulations This does not affect the river resources

In Alternative B, oil and gas leasing is allowed either (1) under option B1 (Standard Lease Terms), which would have some effect on the character of the river-corridor landscape, or (2) under option B2, which allows leasing, but no surface occupancy This option does not affect the river resources

In Alternative NA, oil and gas leasing is allowed within the eligible Recreation River corridors, using Standard Lease Terms This could have some effect on the character of the river corridor landscape An Environmental Assessment would be required, in any case, before ground-disturbing activity takes place

CUMULATIVE EFFECTS

The RGNF has no nationally designated Wild and Scenic Rivers Sections of the upper Conejos River were recommended for inclusion in the National Wild and Scenic River System in 1982 Management of the river focuses on protecting its resources and character The disposition of this river is still pending. It has been 12 years since the river study was done and the recommendation made to Congress. Any proposed activities within the Recreation River corridor that would change the character of the river or its resources would require a new River-Suitability Study.

At the Province level (sections of Montana and Idaho, Wyoming, Utah, Colorado, and New Mexico), there are six designated Wild and Scenic Rivers (Clarks Fork of the Yellowstone in Wyoming, Cache La Poudre in Colorado, and in New Mexico the Rio Grande, Rio Chama, East Fork of the Jemez, and the Pecos) These rivers total 195 6 river miles

Five of the six designated Wild and Scenic Rivers are located within the Tri-Section level (Colorado and New Mexico), totaling 175 1 river miles

Designation of the 14 eligible rivers on the Forest would lead to an increase in river-related recreation The rivers would be a component of the Forest's dispersed opportunities and be a recreation attraction Regionally, it would not significantly increase the amount of recreation use Non-designation would not affect the amount of river-related or dispersed-recreation uses on the Forest, but would represent a lost opportunity to have representative streams in Colorado as part of the National Wild and Scenic River System

SPECIAL INTEREST AREAS

ABSTRACT

Special Interest Areas (SIAs) are proposed for designation because of their botanical, geological, or historical value The seven SIAs proposed for designation are Blowout Pass (geological), Devil's Hole (geological), John C. Fremont (historical), Wagon Wheel Gap Watershed Experiment Station (historical), Bachelor Loop (historical), Elephant Rocks (botanical), and Ripley Milkvetch (botanical) Their settings vary, as noted in the descriptions below SIAs offer a variety of visitor experiences that stress independent exploration with basic interpretation, either on the ground or through interpretive brochures. SIAs are managed to maintain the values that make them unique

INTRODUCTION

Geological, historical, and botanical values are addressed in the seven SIAs proposed for designation Five SIAs offer opportunities for the visitor to view and explore a variety of unique areas of the Forest Two SIAs are of botanical importance because of their habitat for Sensitive species plants Botanical areas are proposed for designation in order to

protect the plants and to learn more about relationships between RGNF activities and plant availability SIAs are managed to maintain the values that made them unique

Legal Framework

The Forest Plan establishes direction (Management Area Prescriptions) applying to future activities in designated Management Areas (36 CFR 219 11 (c) Special Interest Areas are one kind of management area SIAs are managed to maintain the values that made them unique

Special Interest Areas Proposed for Designation on the RGNF

Blowout Pass. The 1,256-acre Blowout Pass SIA is proposed for designation because of geological and scenic values This is an area of hydrothermically altered volcanic rock displays, with vivid red, orange, and yellow soils in a rugged, highly eroded setting Elevation ranges from 10,000' to 12,124', slopes are generally steep (30% to 80%).

Forested areas are Engelmann spruce, sub-alpine fir, and bristlecone pine This SIA forms the headwaters of Jasper Creek and Burnt Creek, which are naturally polluted by sulphates and free sulphuric acid present in great abundance in the altered rock Grasses and forbs are limited on open slopes because of soil composition and erosion

Access is by Forest Development Road (FDR) 280 (4WD) from the town of Jasper on the Alamosa River, or by FDR 329 via FDR 330 (the Pinos Creek Road), from Del Norte to Blowout Pass Forest Development Trail (FDT) 700 accesses the northern portion of the area on the ridgetop There are excellent views from the trail of the steeper eroded areas to the south There are no trails in the steeper portions of the SIA

The Desired Condition is for the area to remain natural appearing and non-motorized (except for access by road FDR 280 and trail FDT 700) The main portion of the area is considered too steep and erodible for motorized travel Access to the interior portions of the SIA is by cross-country foot travel No additional trail construction is planned Interpretation will be developed that will include limited signing and a descriptive brochure

Devil's Hole. The Devils Hole SIA is proposed for designation because of geological and scenic values. This 270-acre area consists of a rugged depression geologically unlike others on the Forest Landslide deposits during the Holocene and Pleistocene, consisting of poorly sorted material derived from bedrock and glacial deposits, form the composition of the area

Elevation ranges from 10,800' on the rim of the depression to 10,000' at the bottom Access is cross-country and no trails into the actual SIA exist Initial access is via the Hot Creek Stock Driveway from Big Lake on FDR 259

The Desired Condition is for the area to remain natural-appearing and non-motorized Livestock grazing will be allowed, but limited by steep rocky terrain Interpretation will be developed that will include limited signing and a descriptive brochure.

John Charles Fremont. This 10,830-acre historic SIA is proposed for designation because of its historical value The area includes the landscape and several identified sites where members of John Charles Fremont's 4th Expedition camped and traveled while snowbound in the La Garita Mountains in 1848-49 The area is generally above timberline, with most of the historic campsites found immediately below timberline, in small groups of spruce trees The recreational value of this SIA is considered high, because of the historic nature of the sites Books and guides about the expedition have been published, and a guide to orienteering (traveling cross-country by compass) has been written for public use

Vehicle access into the SIA is via FDR 630. FDT 787 is the main trail into the area. Cross-country foot travel is used to access most individual campsites

The Desired Condition is for the SIA to remain natural-appearing and non-motorized, except on designated access routes Livestock grazing is allowed Interpretation will include limited signing, a descriptive brochure, and the orienteering guide

Bachelor Loop. This 4,475-acre SIA is proposed for designation because of its historical significance The SIA surrounds the Bachelor Loop, an existing interpretive auto tour, immediately north of Creede The historic landscape of the SIA is interpreted along the route. Historic structures, townsites, and views of the historic town of Creede are visible

The SIA is on the sides of generally steep ridges above both Willow and East Willow Creeks The portion near lower Windy Gulch , which is not as steep, consists of open grass and forb land

The Desired Condition is for the SIA to remain natural-appearing. Livestock grazing is allowed Interpretation is already in place along the Bachelor Loop interpretive roadway

Wagon Wheel Gap Watershed Experiment Station. This 1,585-acre SIA is proposed for designation because of its historical significance. Evidence of the first watershed experiment ever conducted in the United States, dating from 1909 to 1926, is found within the area Historic features include the remains of the experiment station headquarters, stream houses where scientific measurements were taken, weirs, dumps, roads, and a grave Two watersheds were involved in the experiment, and there are opportunities to continue measurements after more than 75 years

The SIA is on the steep (40% to 60%) east-facing side of Snowshoe Mountain, northwest of Wagon Wheel Gap Vegetation is aspen, Douglas-fir, and Engelmann spruce/sub-alpine fir in the higher elevations The southern part of the area is not as steep, consisting of open grass and forb-covered ridges Elevation within the area ranges from 8,800' to 11,400'

The Desired Condition is for the SIA to remain natural-appearing Interpretation of the history, further historical documentation, and the collection of additional scientific measurements are desired Livestock grazing is allowed

Elephant Rocks. This 8,441-acre SIA is proposed for designation because of its botanical and geological value The SIA has volcanic formations associated with the Summer Coon volcano, and also is habitat for rock-loving Neoparrya (*Neoparrya lithophilia)*, a Forest Service-designated Sensitive species The adjacent BLM land (1,852 acres) was designated as an Area of Critical Environmental Concern (ACEC) based on unique geologic, scenic, visual,

and special-status-plant values, as well as for recreation and other significant natural resource values (USDI Bureau of Land Management, 1991)

The SIA is north of the town of Del Norte, including areas of Eagle Rock and Eagle Mountain The SIA is generally open grassland, with pinon/juniper, Douglas-fir, ponderosa pine, and aspen on ridge sides Elevation within the area ranges from 8,800' to 11,400'

The Desired Condition is to continue to provide high-quality habitat for Neoparrya. Grazing is allowed in this SIA, as the plant is considered unpalatable to livestock

Ripley Milkvetch. This SIA is proposed for designation because of its botanical value The SIA, in two separate areas, contains high-quality habitat for Ripley milkvetch (*Astragalus ripleyi),* a Forest Service-designated Sensitive species Ripley milkvetch is found only in Conejos County, Colorado, and Taos and Rio Arriba Counties in New Mexico The Bureau of Land Management has designated Ra Jadero Canyon (3,632 acres) as an Area of Critical Environmental Concern for unique special-status-plant values (Ripley milkvetch) and other significant natural resource values (USDI Bureau of Land Management 1991)

The southern portion of the SIA (3,015 acres) is in the Bighorn Creek drainage, with a mesa feature in the approximate center of the area Vegetation is generally open grassland, with some pinon, juniper, and Douglas-fir on the north-facing-ridge side of the mesa Elevation ranges from 8,300' to 9,200' Access is via Colorado Highway 17 and FDR 103 (south)

The northern portion of the SIA (2,075 acres) is on the ridge between the Conejos River and Fox Creek Hicks Canyon is in the approximate center of the area. Vegetation is again mostly open grassland, with Douglas-fir, ponderosa pine, and aspen in the upper elevations and on ridge sides Elevation ranges from 8,400' to 9,300' Access is via Colorado 17 west from Antonito to FDR 101 (north)

The Desired Condition is to continue to provide high-quality habitat for Ripley milkvetch *(Astragalus ripleyi)* Grazing will be allowed, as it is doubtful that it is adversely impacting the long-term existence of this plant A monitoring scheme will be developed to assess the impacts of grazing on this plant

RESOURCE PROTECTION MEASURES

Forestwide and Management-Area Prescription 3 1 Standards and Guidelines protect the values for which each SIA was recommended for designation

Table 3-81. Special Interest Areas Recommended for Designation

SIA Name	Acres by Alternative					
	A	B	D	E	F	G
Blowout Pass	425	350	900	880	420	1,260
Chama Basin Landslide Geologic Area	0	0	0	390	360	270
Devils Hole Geologic Area	370	370	320	390	370	0
Beaver Creek Obsidian Source	90	0	0	0	0	0
Summer Coon Volcano Geologic Area	17,200	0	0	15,100	6,980	0
West Lost Trail Creek Landslide Geologic Area	100	100	0	0	100	0
Brewster Stageline Historic Area	0	0	0	1,100	0	0
Fremont Historic Area	0	6,170	10,660	7,890	0	10,830
Wagon Wheel Gap Experiment Station	0	65	880	1,010	0	1,585
Elephant Rocks Botanical Area	*	4,100	7,270	0	*	8,440
Ripley Milkvetch	5,735	5,180	5,210	2,360	5,740	5,090
Bachelor Loop Historic Area	990	820	1,800	620	150	4,475
TOTAL ACRES	24,910	17,155	27,040	29,740	14,120	3,950

* Acreage included in the Summer Coon Volcano Geologic Area

ENVIRONMENTAL CONSEQUENCES

Designation of botanical, geological, and historical areas may place certain limits on management activities Areas designated for use and interpretation (Prescription 3.1) will be managed to protect and enhance their unusual characteristics The management emphasis is to protect the values that make these areas unique, and, where appropriate, to develop and interpret the area for public education and use

None of the SIAs proposed for designation are included in the suitable timber base in any of the Alternatives The SIAs are either too steep or rough, are above timberline, or are too dominated by grassland to contribute significantly to the suitable timber base Livestock grazing will be allowed, as long as it does not conflict with the values for which the particular SIA was proposed for designation

HERITAGE RESOURCES

ABSTRACT

Heritage resources (formerly called cultural resources) are sites, features, and values having scientific, historical, educational, and/or cultural significance They include concentrations of artifacts, rock art, structures, landscapes, or settings for prehistoric or historic events The Forest has about 600 heritage resource sites formally recorded There probably are a minimum of 6,000 undiscovered sites Roughly 140,000 acres has been completely inventoried during the course of project evaluations done since 1975

Impacts from Forest activities can damage or destroy heritage resources Inventories to identify and evaluate the significance of heritage resource sites are done prior to the decision to implement projects or activities that could affect heritage resources The inventory process also results in the formulation of measures to protect those sites determined to be eligible for the National Register of Historic Places We expect to locate and evaluate about 100 resource sites annually An estimated 33% of these sites will be eligible for nomination to the National Register of Historic Places, based on past experience with eligibility

INTRODUCTION

Heritage Resources (HRs) are features, sites, and values having scientific, historical, educational, and/or religious and cultural significance Resources include physical and tangible elements, and philosophical, spiritual, or emotional attributes associated with places and things American Indian traditional cultural properties (places of religious or cultural significance to American Indian people) are included in the realm of HRs HRs include, but are not limited to, artifacts, rock art, landscapes, structures, or settings for prehistoric, historic, or legendary events

Legal Framework

The *National Historic Preservation Act of 1966* (NHPA) and 36 CFR 800 direct federal agencies to consider the effect of any undertaking on any site, district, building, or object that is eligible or listed in the National Register of Historic Places (NRHP) An undertaking is any project, activity, or program that can result in changes in the character or use of HRs The NRHP is a list of sites, buildings, districts, structures, places, and objects significant in American history, architecture, archaeology, or culture To be listed on the NRHP, HR sites must be evaluated using specific criteria, and undergo a review process

NRHP eligible and listed HR sites are not to be damaged, transferred, sold, demolished, altered, or allowed to deteriorate significantly Information relating to the location or character of HRs may be withheld from disclosure to the public if there is a substantial risk of harm, theft, or destruction HR sites determined eligible for the NRHP must be nominated

to be in compliance with the NHPA Mitigation must be done, on sites on or eligible for the NRHP, if they are going to be impacted

The *Archeological Resources Protection Act of 1979* directs federal agencies to establish a program to increase public awareness of archaeological resources and their significance Section 14 requires federal agencies to schedule the inventory of lands that are likely to contain the most scientifically valuable archaeological resources

Heritage Resource Types

Most heritage resource sites associated with past American Indian cultures consist of concentrations of chipped stone tools, including projectile points, scrapers, knives, and/or drills Flakes of stone, which are the result of stone toolmaking, are also usually found These HRs suggest past toolmaking or campsite locations

Specific heritage resource site types found include

Open Lithic Hrs- Sites contain chipped stone tools found in open topographic locations. Sites range in size from ten square meters to over 1,000 square meters They may contain a few stone artifacts to about 100

Open Camp Hrs- Sites have chipped stone tools and features such as hearths and/or artifacts (i e , grinding stones or pottery) indicative of domestic activity Sites range in size from ten square meters to over 1,000 square meters They may contain a few stone artifacts to about 100

Open Architectural Hrs- Sites are in open topographic situations and have associated structure remains usually consisting of dry-laid stone circles, stone alignments, and stone fortifications One conical wickiup structure, built of many poles, is included in this type

Sheltered Architectural Hrs- Sites are in caves or rock overhangs and have associated structural remains usually consisting of rock walls that are not plastered.

Rock Art Hrs- Sites consist of petroglyphs, which are carvings in rock and pictographs, which are paintings on rock They are sometimes considered traditional cultural properties important to American Indian people

Isolated Finds consist of four or fewer artifacts found within 200 square meters. These often include projectile points, flakes, grinding stones, scrapers, knives, drills, and pottery fragments

As stated by Nickens (1979), archaeologic and ethnographic evidence of use of the area by the following cultures has been identified.

* Paleo-Indian Tradition (10,000 B C to 5,500 B C). Folsom Period HR sites, which fall into this category, are found on the RGNF These HRs date from 9,000 B C. to 8,500 B.C People of the Folsom culture concentrated on hunting now extinct forms of bison

* Archaic Stage (5,500 B C to A D 500) People of the Archaic Stage hunted a great variety of animals and gathered many kinds of plants during this time

* Late Prehistoric/Historic Stage (A D 500 to 1881 A D) Cultures associated with this stage also lived by hunting and gathering The Ute people were the primary inhabitants of the San Luis Valley area

Most of the HRs found on the RGNF relate to the latter part of the Archaic Stage, dating from 3,000 B C to 500 A D HRs relating to the Paleo-Indian Tradition are found, but in limited numbers due to a general low population density and because of the culture's reliance on bison, which were not generally mountain animals Late-Prehistoric HRs are mostly associated with the Ute culture

Historic heritage resource sites representing the following themes are also found on the RGNF

Early Military and Exploration HRs attributed to John Charles Fremont's 4th Expedition of 1848-1849 These sites, which include the remains of the expeditions campsites, are considered eligible to the National Register of Historic Places One HR related to United States military action is found near Cochetopa Pass The site includes the remains of rock fortifications associated with a small military operation dating to the late 1870s It is considered eligible to the NRHP

Railroad Era HRs are associated with the Denver and Rio Grande Railroad San Juan Extension, dating from 1879 The narrow gauge railroad's destination was the silver mines of southwestern Colorado. The railroad is now known as the Cumbres and Toltec Scenic Railroad and is listed on the National Register of Historic Places Individual features of the site such as snow fences, culverts, loading docks, and other minor features exist

Early Farming and Ranching HRs consist of the remains of homesteads, barns, sheds, and other features associated with early ranching activities Cabins used as outlying "cow camps," also included in this theme, date from 1916 or earlier

Early Federal Activity HRs include RGNF administrative sites, guard stations, early timber sales or plantations, early resource experiment sites (such as the Wagon Wheel Gap Watershed Experiment Station), and early examples of soil, water, range, and other resource conservation efforts They date from 1908 to 1950

AFFECTED ENVIRONMENT

The 1985 Forest Plan identified 319 documented heritage resource sites Some 179,000 acres of the Forest, or about 10%, had undergone a mixture of complete and partial inventory in areas where disturbances of the resource could occur Based on this site density, one HR was expected to be found for every 560 acres of Forest inventoried, for a total of about 3,200 potential sites Evaluations for the National Register of Historic Places were completed on 162 of the documented HRs One site, the Cumbres and Toltec Scenic Railroad, is listed on the NRHP

Since 1985 an additional 269 HR sites have been documented, for a total of 588 Of these, 456 sites are related to past American Indian populations, and 132 to historic activities such as ranching, mining, and early non-American Indian exploration of the area Since 1985, inventories have been conducted on 45,000 additional acres, for a total of 224,000 acres

This number includes 144,000 acres of inventory considered complete We expect that a minimum of 6,600 HRs remain on the Forest Based on past site density information, we now expect to find one HR site for every 310 acres of Forest land

The RGNF Heritage Resource Predictive Model (Klesert 1982) indicates areas of high, medium, and low probability of locating HR sites on the RGNF High probability areas have slopes of 0° to 10°, are 1' to 499' above a permanent water source, are in open (nonforested) areas or in forested areas dominated by grasslands, and face in an easterly direction.

The actual number of HR sites we expect to find should probably be significantly higher, considering the limited amount of inventory accomplished within identified high probability areas Previous inventories have tended to be in low or medium probability areas, due to their project related locations, such as timber sales An actual estimate of HR sites we expect to find is probably 10,000 to 15,000, if high probability areas are considered

Evaluations for the NRHP have been completed on a total of 306 HRs, leaving 282 not evaluated. About 100 of the evaluated HRs are considered eligible to the NRHP One of these sites is presently listed on the National Register Roughly 2,000 eligible HRs are expected to be found using present density information. Possibly 5,000 eligible HRs exist if one includes inventory of all high probability areas The National Historic Preservation Act requires each eligible site to be nominated eventually

ENVIRONMENTAL CONSEQUENCES

Environmental consequences are based on recent budgets for the Heritage Resources program. The acreages inventoried and HRs evaluated are based on experienced budget levels (as seen in Table 3-82) Increased use of volunteers and/or partners could increase the inventory acreage and number of sites evaluated

Table 3-82 Acres Inventoried Based on Budget Levels

Alternative	Experienced Budgets	Full Budgets
A	30,000	54,000
B	26,000	49,800
D	26,400	45,900
E	25,400	34,400
F	23,000	47,400
G	31,000	54,000
NA	52,000	53,000

Heritage resource inventories for the National Register of Historic Places are done before the Decision Notice or Record of Decision is issued for any proposed undertakings on the Forest

Direct Effects

Direct effects can result from natural events and human activities Surface disturbance, soil compaction, erosion, heating and freezing, wildfire, prescribed fire, fire suppression, off-highway vehicle use, and the transfer of land from federal to non-federal ownership are examples of direct effects that can damage HRs or alter their settings

Indirect Effects

Indirect effects can result from improved access, which brings more visitors, resulting in the potential for increased vandalism Inadvertent damage and increased noise or visual effects are additional indirect effects

Despite inventories, the potential exists for undiscovered sites, especially buried ones, to be exposed and/or damaged by surface disturbance These sites may or may not be noticed soon enough to allow mitigation This damage represents an unavoidable adverse effect, which would be present in all Alternatives

Irreversible Commitments

All Alternatives will have some potential commitments of heritage resources Examples are inadvertently damaged or destroyed sites, vandalized or looted sites, or as-yet-undiscovered sites that are undergoing loss from natural forces Every Alternative seeks to reduce this loss through inventory, monitoring, project evaluation, and improved project implementation, to assure that loss is kept to a minimum

Resource Protection and Mitigation Measures

Protection and mitigation measures for HRs on the NRHP, or those determined eligible for it are the same for all Alternatives Some methods to eliminate or reduce direct effects include data recovery through excavation or further documentation, project modification to avoid HRs, increased monitoring or law enforcement, interpretation, and scheduling projects at times of frozen ground to avoid soil compaction or disturbance

Table 3-83 Acres Inventoried and HRs Located

Alternative	Acres Inventoried	HRs Located and Evaluated
A	3,700	92
B	2,900	55
D	2,700	58
E	2,500	59
F	3,000	85
G	3,200	64
NA	4900	85

Methods to eliminate or reduce indirect effects include those listed above plus the following: initiating public education programs, posting HRs with informational signs, rerouting trails, fencing, and administrative closure of the area Mitigation of cumulative effects is accomplished with the same actions that mitigate direct and indirect effects

Table 3-83 summarizes the number of sites that could potentially be located annually due to Forest activities More HRs will be located in Alternatives A and F because of an increased focus in those Alternatives on complying with Section 14 of the *Archaeological Resources Protection Act* This Act directs federal agencies to inventory areas with high potential for locating the most scientifically valuable HRs. A discussion by specific activity follows

Heritage Resource Program

Inventories will identify and evaluate appropriate sites for the NRHP. Inventories are done in areas identified as having a high potential for locating HRs, therefore the number of sites found and the number that are eligible for the NRHP will probably be higher (See Table 3-84)

Table 3-84 HR Sites Associated with the Heritage Resource Program

Alternative	Acres Total	Potential Number of HRs Located and Evaluated Annually	Number of Sites Potentially Eligible for NRHP
A	750	39	20
B	200	11	6
D	250	13	6
E	325	16	9
F	600	31	15
G	250	13	6
NA	500	25	14

Effects on HRs from Timber Management

Harvesting timber can affect HRs through surface disturbance caused by felling trees and skidding logs, or because of increased erosion caused by vegetation removal (Table 3-85) Associated activities such as road construction, slash disposal, and improvements (such as work camps), can also disturb HRs Indirect effects, such as increased artifact collection by forest workers and impacts resulting from improved public access, could also occur

Table 3-85. HR Sites Associated with Timber Harvesting

Alternative	Acres Inventoried	Potential Number of Sites Located Annually	Number of Sites Potentially Eligible for NRHP
A	350	39	20
B	1,130	11	6
D	720	13	6
E	510	16	9
F	30	31	15
G	720	13	6
NA	1,320	25	14

Effects on HRs from Recreation Management

Direct effects could occur from construction or reconstruction of campgrounds and trampling of HRs by people and vehicles (Table 3-86) Indirect effects, such as increased vandalism and increased erosion, could also occur Damage to HRs outside the limits of developed sites and facilities often cannot be mitigated, because inventories are not usually conducted outside their limits

Table 3-86 HR Sites Associated with Recreation

Alternative	Acres Total	Potential Number of Sites Located Annually	Number of Sites Potentially Eligible for NRHP
A	50	2	1
B	310	2	1
D	280	2	1
E	320	2	1
F	300	2	1
G	280	2	1
NA	450	3	1

Effects on HRs from Fire Management

Wildfires and prescribed burning have the potential to affect HRs by damaging and/or destroying artifacts and features of archaeological sites (Table 3-87) Damage or destruction of historic structures is also possible Activities carried out in emergencies to control wildfires can also directly damage or destroy HRs Indirect effects include losses from increased erosion caused by burned vegetative cover, or collection of artifacts by fire crews

Table 3-87 HR Sites Associated with Fire Management

Alternative	Acres Total	Potential Number of Sites Located Annually	Number of Sites Potentially Eligible for NRHP
A	460	3	1
B	310	3	1
D	340	3	1
E	330	3	1
F	510	3	1
G	340	3	1
NA	550	3	1

Effects may be greater in wildfire situations, because of the potential for extreme temperatures and our inability to control the effects Also, it is almost impossible to plan heritage resource inventories, although some inventory may be done on firelines The number of HRs affected by wildfire on an annual basis cannot be predicted

Effects on HRs from Engineering and Travel Management

Road construction, reconstruction of roads and trails, and development of gravel sources all have the potential to damage or destroy HRs (Table 3-88) Road closing, especially the obliteration of roads, could cause extensive damage to HRs Road maintenance activities sometimes involve new disturbance during repair of drainage structures and ditches Road maintenance also has the potential to affect HRs indirectly, by altering drainage patterns that may result in erosion

Table 3-88 HR Sites Associated with Engineering and Travel Management

Alternative	Acres Total	Potential Number of Sites Located Annually	Number of Sites Potentially Eligible for NRHP
A	550	3	1
B	400	2	1
D	440	2	1
E	380	2	1
F	370	2	1
G	440	2	1
NA	630	4	1

Effects on HRs from Oil, Gas, and Locatable Mineral Activities

Inventories and evaluations will be completed for all Operating Plans in response to these activities Projected oil and gas drilling activity for the Del Norte, Archuleta Creek, and the Jacobs Hill areas could result in the necessity of HR inventories (See Table 3-89)

Table 3-89 HR Sites Associated with Oil and Gas and Locatable Minerals

Alternative	Acres Total	Potential Number of Sites Located Annually	Number of Sites Potentially Eligible for NRHP
A	35	1	1
B	50	1	1
D	55	1	1
E	55	1	1
F	40	1	1
G	55	1	1
NA	90	1	1

Special Area Designations

Designation of Wilderness, Botanical Areas, or Research Natural Areas would place varying limits on management activities In areas of minimal management, indirect effects to HRs can result from neglect, leading to deterioration or potential vandalism. Since heritage resource inventories in response to projects will be reduced, there will be increased potential for presently unknown HRs to be damaged and/or exposed from naturally occurring erosion On the other hand, the potential for timber harvest, road construction, and other activities to cause direct and indirect effects is eliminated or reduced by special-area designation

Effects Common to All Alternatives

Effects on HRs from Range Management

HRs could be damaged or destroyed by range management activities such as fence construction, spring development, dams, stock tanks, and pipelines HRs near riparian areas, spring developments, and fences, where livestock concentrate, are the most vulnerable to trampling, rubbing, and increased erosion

Under an agreement negotiated with the Colorado State Historic Preservation Officer, heritage resource inventories will be scheduled in the next ten years on suitable rangelands on the Forest Areas will be inventoried where there is a high probability for locating HRs within areas of high grazing-impact potential

Effects on HRs from Lands Activities

Through the Lands program, significant HRs, including those significant to American Indians, may be purchased or exchanged into public ownership This gives them legal protection If sites of significance are inadvertently exchanged out of public ownership, the areas may become damaged, and public access to them may be eliminated

Effects on HRs from Wildlife and Fish Management

Fish structure and fish pond construction has the potential to affect HRs Prescribed burning and aspen clearcutting projects could also damage or destroy HRs

Effects on HRs from Watershed Improvement Projects

The construction of watershed improvements to control erosion may affect HR sites There will be about 100 acres of watershed improvement projects per year

Effects on HRs from Naturally Occurring Erosion

The potential for presently unknown HRs to be damaged and/or exposed from naturally occurring erosion, heating and freezing, and/or wildfire is common to all Alternatives (See Table 3-90) No estimate of the number of HRs damaged or exposed can be made

Table 3-90 HR Sites Located By Activities Common to all Alternatives

Activity	Acres Inventoried	HRs Located Annually	HRs Eligible to NRHP
Range	680	34	17
Lands	140	2	1
Hydrology	70	1	1
Wildlife	80	1	1

CUMULATIVE EFFECTS

Cumulative effects can include the loss of HRs, or portions of HRs, before the development of better research methods, and loss of interpretive values Past and future Forest management projects can cause surface disturbance, bring additional people in contact with HRs, and affect the integrity of historic structures Cumulative effects that are the result of unsanctioned activities, such as vandalism or illegal excavation, also occur

Natural weathering and erosion, fires, and other types of ongoing processes contribute to cumulative adverse effects on HRs Alternatives that result in more acres of management activities will result in increased acres of inventory The additional required inventory and evaluation will result in more HRs being documented and protected from adverse cumulative effects caused by such natural processes

Developed and Dispersed Recreation

ABSTRACT

The emphasis of the RGNF recreation program is to

* provide for and maintain a mix of quality developed recreation facilities,
* feature and perpetuate our undeveloped and diversified dispersed-recreation opportunities,
* showcase Scenic Byways and landscapes,
* expand our interpretive services, and
* better serve the public

The RGNF is capable of providing a balanced mix of recreation settings for nonmotorized and motorized opportunities in the summer and winter The challenge is balancing the mix of opportunities and resolving potential conflicts

The Alternatives will affect the mix of developed- and dispersed-recreation opportunities Alternatives A, F, and E maintain existing developed facilities, but emphasize nonmotorized dispersed-recreation opportunities Alternatives, NA, B, D, and G emphasize a balanced mix of developed and dispersed opportunities.

INTRODUCTION

Legal Framework

Land and Water Conservation Fund Act (Act of September 3, 1964)

Section 1 - Purposes (b) "The purposes of this Act are to assist in preserving, developing and assuring accessibility to all citizens of the United States of America . such quality and quantity of outdoor recreation resources as may be available and are necessary and desirable by providing funds for the federal acquisition and development of certain lands and other areas (16 U S C. 4601-4) "

Section 4 (b) Recreation User Fees "Each federal agency developing, administering, providing or furnishing at federal expense, specialized outdoor recreation sites, facilities, equipment or services shall, in accordance with this subsection and subsection (d) of this section, provide for the collection of daily recreation use fees . . " (d) "All fees established pursuant to this section shall be fair and equitable "

Architectural Barriers Act (Act of August 12, 1968)

Section 4152 "Standards for design, construction, and alteration of buildings will be prescribed to insure whenever possible that physically handicapped persons will have ready access to, and use of, such buildings "

Americans with Disabilities Act (Act of July 26, 1990)

Section 504 - Item (b) Contents of Guidelines " shall establish additional requirements, consistent with this Act, to ensure that buildings, facilities, rail passenger cars, and vehicles are accessible, in terms of architecture and design, transportation, and communication, to individuals with disabilities "

National Trails System Act (Act of October 2, 1968)

Section 2 - Statement of Policy (a) "In order to provide for the ever-increasing outdoor recreation needs of an expanding population trails should be established (ii) secondarily, within scenic areas and along historic travel routes of the Nation, which are often more remotely located "

36 CFR 219.21 says that to the degree consistent with needs and demands for all major resources, a broad spectrum of forest and rangeland related outdoor recreation opportunities shall be provided for in each Alternative

(a) Forest planning shall identify --

1) The physical and biological characteristics that make land suitable for recreation opportunities,
2) The recreational preferences of user groups and the settings needed to provide quality recreation opportunities, and
3) Recreation opportunities on National Forest System lands

THE AMERICANS OUTDOOR REPORT

The *Report of the President's Commission on Americans Outdoor Report* (Alexander 1986) stressed the importance of recreation to Americans, and its social and economic benefits To meet these challenges effectively, the Commission recommended providing good information, quality maps, and good overnight facilities, keeping the character and visual integrity of the land and water, identifying and protecting recreational corridors, designating Scenic Byways, and ensuring sustainability through monitoring

The *American's Outdoors* report strongly influenced the development and use of the Forest Service's National Recreation Strategy, America's Great Outdoors" (PA 1403, April 1988), which emphasized customer satisfaction, forging partnerships, and the pursuit of excellence in outdoor recreation.

Tourism in Colorado

Tourism is a vital and growing industry in Colorado The *Tourism Industry Association of Colorado Report* shows tourism in Colorado is growing at an average annual rate of 8 3% A *Comprehensive Tourism Marketing and Funding Analysis Report for Southern Colorado's San Luis Valley* (J R Ogden and Associates and Resort Resources, Inc , 1990) indicated the following

* Major visitor activities were fishing (25 5%), hiking (21 2%), skiing (21.2%), hunting (13 9%), four-wheeling (9.5%), and snowmobiling (4.4%)

* Automobiles were the main mode of transportation

* Visitors to the San Luis Valley were primarily from the Rocky Mountain region (50 3%), the Southwest (34 8%), and the Pacific Coast (7 8%) The report shows Colorado, New Mexico, Texas, Oklahoma, California, Oregon, and Wyoming made up the bulk of the visitors to the Valley

* Summer and fall visits to the Valley made up 65% of all Valley travel

Colorado's tourism relies heavily on recreation settings and opportunities in the National Forests Changes in tourism (and the income it generates) can affect local recreation industries and related outlets, the social and economic aspects of local communities, and the lifestyles of people employed directly or indirectly in the tourism industry

Accordingly, it is important that the Forest coordinate and cooperate with local and state tourism boards, to identify common opportunities and areas of conflict, work toward common goals, and maintain community stability

The emphasis of the RGNF's recreation program is to

* provide for and maintain a mix of quality developed recreation facilities,

* feature and perpetuate our undeveloped and diversified dispersed-recreational opportunities,

* showcase Scenic Byways and landscapes,

* expand our interpretive services, and

* better serve the public

Background - Recreation on the RGNF

Recreation Opportunity Spectrum: The 1986 *ROS Book* (McConnell and Bacon) defines a recreation opportunity as "an available choice by a recreation user to participate in an activity within a preferred setting to derive a positive experience "

The Recreation Opportunity Spectrum (ROS) is a framework for defining classes of recreation settings, opportunities, and experiences Recreation opportunities and experiences associated with each setting are linked to the physical landscape (size of an area, remoteness and degree of human influences), social interaction (amount and type of contact), and managerial efforts (degree of controls or restrictions)

There are six classes of recreation settings describe in the ROS Book

Primitive: Areas where there is a very high probability of experiencing solitude, freedom, closeness to nature, tranquility, self-reliance, challenge and risk

Unroaded Backcountry: Areas where there is a high probability of experiencing solitude, closeness to nature, tranquility, self-reliance, challenge and risk

Backcountry Motorized: Areas where there is a moderate probability of experiencing solitude, closeness to nature, tranquility High degree of self-reliance, challenge and risk in using motorized equipment

Modified Roaded: Area where there is an opportunity to get away from others, but with easy access Some self-reliance in building own campsite and use of motorized equipment Feeling of independence and freedom Little challenge and risk

Rural/Urban: Areas where the opportunity to observe and affiliate with other users is very important as is convenience of facilities and recreation opportunities Outdoor skills, risk and challenge are unimportant except for competitive sports

The RGNF offers recreation opportunities in all of these settings, with the exception of Urban We emphasize the importance of recreationists realizing their expectations when they reach the Forest, and strives to offer a balanced mix of opportunities in all settings

Developed Recreation

Recreation Sites. The Forest has 36 campgrounds (fee and non-fee), 12 picnic areas, 30 trailheads, nine interpretive sites, and eight boat-launching facilities, encompassing about

820 acres (Reference Forest Plan Appendix E for a listing of the Forest's developed sites, by Ranger District.) These are distributed along major U.S. or State highways, Forest Roads, or major streams, and in a few locations in remote areas

These facilities are within the Modified Roaded or Rural recreation settings Our visitors are often return users who stay from two weeks to one month The major season of use is from Memorial Day to Labor Day, with occupancy rates ranging from 35% to 80% These Forest facilities have a combined capacity of 6,570 people at one time

Summer Homes and Resorts. The Forest has 51 summer homes, three resorts, and one youth camp. These facilities are privately owned and operated, and provide unique recreation opportunities

National Forest Guard Stations. In 1990, the RGNF began repairing and reserving (renting) selected guard stations for public use and enjoyment The Brewery and Carnero cabins on the Saguache District, Fitton cabin on the Divide RD, and Elwood cabin on the Conejos Peak RD are available for public use

The Alder cabin on the Divide RD is under special-use permit (operation and maintenance) to the South Fork Powderbusters Snowmobile Club The cabin provides easy access to the snowmobile trail in Alder Creek This cabin is available to civic and organized groups when coordinated with the Powderbusters Snowmobile Club

The Alamosa Guard Station on the Conejos Peak RD will be available for public use in the future when repairs have been completed on this facility

Ski Areas. Wolf Creek Ski Area is the only developed ski area on the Forest There are many people who think it has the best powder skiing in the state There are 1,196 acres under permit to Wolf Creek Ski Corporation, with about 900 acres fully developed Current lift capacity and ski trails accommodate 3,800 skiers at one time

Wolf Creek's operating season is about 140 days (November 20 to April 9). Given early snows and good conditions, Wolf Creek has opened as early as November 2nd Typical heavy skier use occurs during opening week, Thanksgiving break, Christmas-New Year holidays, and during college and high school spring breaks The number of skier visits during the 1994-1995 season was 157,995

Dispersed Recreation

Dispersed recreation is that portion of use that occurs on all areas of the Forest outside developed recreation facilities This includes use within recreation corridors, Scenic Byways, backcountry areas, and along rivers, lakes, and streams accessible via Forest trails or roads Dispersed-recreation opportunities occur within all ROS classifications Dispersed recreation accounts for about 65% of the recreation use on the Forest

The Forest's dispersed-recreation program has been geared to historical or traditional activities such as fishing, hunting, hiking, horseback riding, dispersed camping, auto tours, and four-wheel driving; and winter activities, like snowmobiling and cross-country skiing

Nontraditional, dispersed-recreation activities are enhancing the Forest's program and are another means of meeting visitors' desires Interpretative sites and programs educate and inform users The Forest's Watchable Wildlife program offers many avenues for recreational opportunities Mountain-bike and ATV routes--both long-distance and loop trails--are being developed The Beyond Wilderness program is being set up to enable visitors to explore lighter-used areas of the Forest Also, yurt systems are being planned to give visitors a multitude of opportunities.

Scenic Byways. The Forest has two Scenic Byways The Silver Thread National Scenic Byway is a 75-mile scenic route along State Highway 149 It includes the quaint towns of Lake City, Creede, and South Fork; geologic features, historical sites, wildlife; and opportunities to participate in a variety of summer and winter recreational activities

The Los Caminos Antiguos Scenic Byway ("The Ancient Road") explores the rich cultural heritage of the San Luis Valley. Thirty-five miles of this 129-mile Scenic Byway are on the Forest (along State Highway 17 from the New Mexico state line to the Forest boundary)

Interpretative plans have been written for both Scenic Byways. A resort naturalist program along the Silver Thread Byway is being pursued with the local communities and interested resort owners

Trails. Trails throughout the United States are an important link to the history and development of this country Trails within the San Luis Valley and on the RGNF were vital travel routes and strongly influenced the development and growth of the Valley As the twenty-first century approaches, trails continue to provide an important benefit to society

Trails are now used in the pursuit of a variety of nonmotorized and motorized activities that provide

* an economic benefit to local communities,
* opportunities for learning and improving outdoor skills,
* educational opportunities and development of work skills,
* opportunities for long-distance travel or linking communities, and
* an opportunity to explore and enjoy the beauty of nature

Recreation settings influence the type of trail, and user suitability Trails within Wilderness (Pristine and Primitive settings) and Backcountry areas (Semi-Primitive nonmotorized settings) are accessible via hiking and horseback riding in natural landscapes with minimal human-caused changes

Trails in Backcountry areas (Semi-primitive motorized settings) are available to both motorized users (motorcycles and ATV riders) and nonmotorized users (mountain bikers, hikers and horseback riders) in natural landscapes with some indications of management influences

Other areas on the Forest , categorized as the Modified Roaded settings, can be enjoyed by both motorized and nonmotorized users, in landscapes substantially modified by management activities

Portions of the Continental Divide National Scenic Trail, two National Recreation Trails (Lake Fork Trail and West Lost Creek Trail), and the Colorado Trail are located on the RGNF

The Continental Divide Trail is 3,100 miles long, extending from Canada to Mexico. Its purpose is the conservation and enjoyment of nationally significant scenic, historic, and cultural qualities of the areas through which it passes Approximately 170 miles of this scenic trail are on the RGNF, from its northern boundary with the Gunnison NF down to the New Mexico state line

The Colorado Trail is a 470-mile-long trail crossing Colorado between Durango and Denver About 80.5 miles of the trail are on the RGNF. Volunteers built and maintain this trail It is available to both novice and experienced hikers.

Use of mountain bikes and ATVs on the Forest has increased over the past three years The Forest has begun efforts to plan and develop a network of mountain bike trails Some trails are being reconstructed for ATV users. (Refer to the Travel Management section in this chapter for miles and types of Forest trails)

Outfitter-Guides. There are 60 outfitter-guide permit holders on the Forest These businesses offer a wide range of recreational services to Forest visitors.

The 1985 Forest Plan does not contain direction or guidelines for setting adequate levels of service days for outfitter-guides, or for determining public need for services on the Forest The 1985 Forest Plan Wilderness Prescription direction stated, "outfitter and guide operations will be included in the calculations of levels-of-use capacities " These capacity determinations were never developed

Currently, the Forest has a moratorium on issuing new outfitter-guide permits or approving additional use on existing permits, until a capacity study is completed and approved There is a recognized need to develop an allocation process that is understandable, fair, and consistent

Environmental Education and Interpretive Services

Since 1991, the RGNF has had a full-time environmental-education specialist who plans, organizes, and implements program and interpretive services To meet the Forest Service's mission statement of "Caring for the Land and Serving People," it is essential for our environmental-education and interpretive programs to be pro-active

At the start of these programs, the Forest did not fully plan or coordinate our educational and interpretive programs in order to give people visitor information and interpretive signing on the ground To better facilitate how the Forest will handle our environmental-education and interpretive programs, in 1994 the Forest developed an *Environmental Education and Interpretive Master Plan*

The purposes of the Interpretive Programs are to·

* Be consistent in theme development of proposed recreation and interpretive projects

* Develop and prioritize project implementation schedules.

* Establish costs for interpretive projects, and incorporate these costs into the budgeting process

* Enable the Forest to take advantage of grant and partnership opportunities

* Evaluate the stockholders' (visitors) needs and desires

The purposes of the Environmental Education Program are to

* Continue our involvement with partners, in order to organize and improve environmental education in the San Luis Valley

* Develop a Forest environmental-education curriculum which will link Forest education goals to education modules and Colorado Curriculum Content Standards

* Work with school districts to integrate environmental education into their curricula

* Expand programs to the South Fork Education Center

* Develop special programs designed to meet the Forest's educational needs (e g, Ghost Riders, Tread Lightly, Wilderness Box, etc)

Implementation of this Master Plan will

1 Help manage resources by

    * reducing resource damage, and

    * developing pro-active programs that help accomplish management goals and increase awareness of the Forest Service mission

2 Help manage Forest visitors by·

    * Directing visitors to specific areas of the Forest

    * Creating an effective communication link with visitors

    * Increasing desired behavior by visitors (Leave No Trace, Tread Lightly, increase awareness of travel management restrictions, etc)

The following interpretive projects are in place and available to Forest visitors.

Conejos Peak R D	*Guide to High Country Auto Tours*
Divide R D	Bachelor Historic Tour and Creede Underground Mining Museum

Saguache R D	Bonanza Auto Loop
Forestwide Programs	Summer campground Interpretive programs. Forest entrance kiosks are on the summit of Poncha Pass and the summit of North Pass, and there is a three-panel interpretive sign on the summit of Wolf Creek Pass

During the next planning period, the following interpretive projects will be considered for development

Conejos Peak R.D.	Como Lake/Blanca Tread Lightly Project, Conejos Canyon Watchable Wildlife Overlook, Alamosa/Conejos Canyon Geologic and Mining History Auto Tour, Cumbres and Toltec Scenic Railroad Interpretive Project, and Trujillo Meadows Wetlands Interpretive Project
Divide R D	Wheeler Geologic Area Interpretive Sign Project, Bristol Head Campground Self-Guided Interpretive Tour, Big Meadows Interpretive Trail, Rails to Trails Project, Lobo Overlook Interpretive Signing, Pinos-Beaver Ecological Loop, and Summer Coon Volcano Project
Saguache R D	Bonanza OHV Interpretive Loop, Big Springs Interpretive Project, Aspen Ecology Interpretive Project, and Saguache Park Geologic Interpretive Project
Forestwide Projects	Junior Ranger Program and expanding our Summer Campground Interpretive program

Recreation Trends

Developed Recreation. From 1990 to 1995, developed recreation use on the RGNF changed very little. The following table shows use figures for the last six years. The use figures are thousands of Recreation Visitor Days (RVDs) in all tables An RVD is defined as one person recreating for a 12 hour period of time

Weather, economic conditions, and gasoline prices are major factors that influence visitor use and length of stay in our developed campgrounds Most of our use comes from returning visitors (Texas/Oklahoma) rather than from frequent short-term users

The fluctuation in use over the past six years is attributable to snow in the spring that delayed openings, problems with water systems, or delayed openings due to removal of hazard trees The sharp increase in 1995 resulted from opening of the

Table 3-91. Developed-Recreation Use

Developed-Recreation Use	
Fiscal Year	**RVDs**
1990	406 7
1991	415 0
1992	416 4
1993	410 4
1994	401 8
1995	444 5

campgrounds earlier in May because of good weather, below-normal winter snowfall, and visitors coming to the Forest earlier

Dispersed Recreation. Dispersed-recreation use over the past six years has been erratic, due mainly to weather (either in the spring or summer) and economic factors that shortened visits to the backcountry areas Again, the big increase in 1995 is attributable to good weather in the spring because of the below-normal winter snowfall, and early arrival of visitors Table 3-92, displays dispersed recreation use for the last six years

Table 3-92 Dispersed-Recreation Use

Dispersed-Recreation Use	
Fiscal Year	RVDs
1990	643 9
1991	629 1
1992	634 9
1993	742 0
1994	733 6
1995	801 9

Ski Areas. Recreation use at the Wolf Creek Ski Area appears to be consistently rising Table 3-93, shows the levels of use in thousands of RVDs over the last six years

Table 3-93 Ski Area Use.

Ski Area Use	
Fiscal Year	RVDs
1990	72 0
1991	118 0
1992	124 5
1993	126 7
1994	140 4
1995	157 9

The low use at Wolf Creek in 1990 was due to a very late snow year (the facility did not open until January) The increased use in 1994 and 1995 is attributable to opening in early November and continuing operations into early April, which is about 15 - 20 days longer than the normal operating season

Summary. Recreation use on the Forest has increased about 2-3% annually Use figures are derived from campground use records, various sample surveys taken to derive dispersed use throughout the Forest, and skier visits received from Wolf Creek

For some of our dispersed-use figures, we check with local visitor centers in the Valley and at the Great Sand Dunes National Monument, to see if their annual-use figures are comparable with ours from year to year Hunting and fishing use figures are derived from the Colorado Division of Wildlife (fishing and hunting licenses sold each year)

Projected Trends. The 1994 *Regional Demand and Supply Projections for Outdoor Recreation* (English et al , 1993) predicts the Rocky Mountain Region of the Forest Service will see a population increase of 34 5%, and a real-income increase of 54 0%, over the next 50 years This projected growth will influence both the recreation-opportunity demand and supply The most popular outdoor recreation activities (measured by the number of trips) in

the Rocky Mountain Region, are (1) driving for pleasure, (2) picnicking, (3) swimming, (4) sightseeing, and (5) walking for pleasure

By the year 2040, the following activities (measured by the number of trips) are projected to have the fastest growth skiing, rafting, running, swimming, collecting firewood, visiting prehistoric sites, bicycling, and day hikes The activities that will have the largest gaps between demand and supply by the year 2040 are rafting, backpacking, cross-country skiing, and day hiking

Other Key Recreation Trends

Developed Recreation. Americans are expected to use more developed recreation sites Americans value leisure time Quality of services and ability to meet people's expectations will determine how much leisure time is spent pursuing outdoor recreation (Braus and Tucker 1990)

An emerging trend in family travel is vacation spontaneity. Americans are taking shorter and more frequent trips, rather than extended ones (Tourism Connection, 1990)

Recreation activities are viewed by many people in the United States in terms of economic class (Gilbert 1988)

Visitors to campgrounds said their level of satisfaction was based on the safety and security of the facility, first impressions, cleanliness, condition, and accurate information (Research Update, 1989)

Users are divided about the type of camping facilities they want (primitive vs. highly developed) This suggests a need to provide for a wide range of camping experiences (Research Update, 1989)

There is a rapid growth in single-parent households and an increase in outdoor activities by the physically challenged and senior citizens (Alexander 1986)

Use of the Forest's developed facilities will depend on our ability to get better acquainted with our visitors, and to figure out their desires At the full budget level, the Forest's developed facilities would be rehabilitated and expanded, with anticipated use levels increasing 3% annually throughout this planning period At the experienced budget level, the Forest would not rehabilitate or expand most facilities, and would not meet this annual-use increase (3%) Use would exceed supply during this planning period, facilities would deteriorate and be closed.

Dispersed Recreation. The quality of service and the degree to which people's expectations are met will determine how much leisure time is spent pursuing outdoor activities (Braus and Tucker 1990)

Different age groups are becoming multicultural at different rates By the year 2000, 28% of all Americans will be minorities (Riche, 1991)

By the turn of the century, the 50-plus age group will control the nation's wealth It is important to know their preferences They tend to participate in group activities rather than be independent travelers (Wolfe 1990)

Winter travel has grown faster than travel in any other season A sluggish economy could slow or reverse this trend A recession could affect the trend toward multiple, short vacations (American Demographics, 1990)

The Forest can supply a balanced mix of recreation settings, providing for summer and winter motorized and nonmotorized opportunities, which can play a role in meeting these projected dispersed-recreation trends The challenge will be balancing the mix of opportunities and resolving potential conflicts

Ski Areas. The trend has been toward major resorts and away from smaller areas serving local customers (American Demographics, 1990).

Increased competition will stimulate new kinds of winter resorts The main competition is not from within the ski industry, but from other vacation attractions (Farmer 1992)

The Forest and its partners must decide what skiers want, and/or what it will take to attract new skiers

Wolf Creek Ski Area has sufficient capacity to meet skier demand throughout the next planning period Expansion of the existing ski area outside its current permitted boundary would require a new master plan and analysis, to accommodate additional skier demand should it exceed the anticipated growth rate One factor that may significantly affect the rate of growth over the next decade is the development of the private land next to Wolf Creek Ski Area

AFFECTED ENVIRONMENT

Recreation Setting

Management decisions and project activities associated with carrying out the Forest Plan have changed the mix of the Forest's recreation settings to those outlined in Table 3-94

The ratios of recreation settings may change for each Alternative analyzed in this Revision process

Table 3-94. 1995 Recreation Settings

Recreation Setting	Forest Acres	Percent of Forest Land
Rural	18,602	1 0%
Modified Roaded	817,390	44 6%
Backcountry Motorized	303,485	16 6%
Unroaded Backcountry	260,290	14 2%
Primitive (Wilderness)	431,440	23 6%
Forest Total	1,831,207	100 0%

Developed Recreation. The recreation emphasis for developed recreation sites is to:

* operate and maintain our existing developed-site facilities;

* analyze under-used campgrounds and decide whether to close them or convert them to concentrated use sites,

* establish a Forest improvement program that emphasizes correcting safety-and-health needs (such as replacing five toilet vaults per year and installing one new water system per year)

* continue to reconstruct and/or expand our developed recreation facilities (Regional Capital Investment Program) where demand and site conditions permit,

* manage and administer our current recreation special-uses and cabin rental program

The recreation program goal is to maintain a wide mix of quality recreation facilities

Projects in our current Regional Capital Investment Program are

Campground Rehabilitation Projects:

Conejos Peak District	Aspen Glade CG, Elk Creek CG, Trujillo Meadows CG, Conejos/Spectacle Lake CG, Lake Fork CG, Mix Lake CG,
Divide District	Lower and Upper Beaver CG, Cross Creek CG, Park Creek CG, Marshall Park CG, River Hill CG, North Clear Creek CG, Silver Thread CG, Bristol Head CG, Silver Thread Scenic Byway Interpretative Sites.

Rehabilitation includes reconstructing sites (hardening areas to include spur and camping unit), which makes them accessible to Rvs and longer trailers It may include some minor expansion (3 - 5 sites), should the area be capable of including a few additional sites

Other projects include

Divide District	Lobo Overlook - picnic area rehabilitation and installing interpretive signs at the overlook, Wheeler Geologic Area Interpretation (interpretive signs at Wheeler trailhead)
Saguache District	North Crestone CG and Buffalo Pass CG Rehabilitation

During this next planning period, proposed site expansions are

Conejos Peak District	Mogote Group Area
Divide District	Cross Creek CG and Big Meadow CG (tent area)

Proposed new trailhead developments include

Conejos Peak District	Adams Fork, Chama Basin
Divide District·	Trout Creek, Hope/Archuleta, Willow Creek complex (trailhead/storage area) and Lost Trail Creek (Creede)

Proposed new campground sites are·

Divide District	Rito Honda CG (Creede - 20 sites), Val Verde (Del Norte - large group area) and South Fork group area (Del Norte)

Sites that will be considered for conversion to concentrated dispersed areas include Stunner and Alamosa CG, Rio Grande picnic site, Ivy Creek CG, Rio Grande CG, Lost Trail CG, North Clear Creek CG, and Stone Cellar CG

Toilet replacement needs are:

Conejos Peak	replacements - 10, new - 5
Divide	replacements - 31, new - 7
Saguache	replacements - 10, new - 8

Developed sites being considered for new water system (new wells, water tanks, and distribution system) are

Conejos Peak.	Mix Lake CG
Divide	Lower/Upper Beaver CG, Cross Creek CG, Park Creek CG, Palisade CG, Marshall Park CG and Silver Thread CG
Saguache·	Poso and Storm King CGs

Dispersed Recreation:

Scenic Byways - With Interpretive Plans completed for each Scenic Byway, existing and new interpretive sites will be planned and developed

Silver Thread New site at Collier (5-7 acres) and a new trail and overlook at the North Clear Creek Falls area, four acres, five existing sites will be rehabilitated and new interpretive signs installed (ten acres affected)

Los Caminos Antiquos From 5 to 7 new sites could be developed (10-35 affected acres)

Trails: There are roughly 1,500 miles of inventoried trails on the Forest Each Ranger District currently maintains about 150 miles of trail annually, and our trail- reconstruction work is about ten to 12 miles annually During the next planning period, the trails program will emphasize the following

* maintenance of existing trails,
* trail reconstruction,

* some new trail construction (associated with ATV trails, loop trails, connective trail or interpretive trails), and
* trail obliteration.

(Refer to the Travel Management Section, page xx, in this chapter for additional information related to Forest Development trails)

Outfitter-Guides

Needs Assessment. The 1985 RGNF *Land and Resource Management Plan* did not contain direction with regard to establishing capacity determinations, future outfitter and institutional opportunities, or allocations of capacities, nor did it establish a capacity-determination or -allocation monitoring program

The purpose of the *Needs Assessment and Capacity Determination* is to identify information and management direction related to offering quality recreation opportunities for commercial/institutional recreation services, using a finite resource base

As the number of visitors to the National Forest tends to grow, so does the concern for how to determine and manage the appropriate amount and types of permitted recreational services. With increased recreation use comes the potential for user conflicts, changes in the physical and biological resources, and changes in recreation experiences, and a decrease of solitude

The challenge for managers is to offer quality and sustainable recreation opportunities, based on the capability of the land, desired future mix of commercial recreation services to meet public need, and monitoring of the various recreation users (commercial, institutional, and public) in order to make management adjustments where needed

Guides, outfitters, educational institutions, and organizations provide services which are essential to the public use and enjoyment of the Forest The Forest Service recognizes the value of these services, and relies on these partners to assist an ever-increasing urban society that may lack the necessary skills or equipment to have an enjoyable, safe recreation experience The Forest Service also recognizes the need to establish capacity determinations and allocations, in order to determine potential commercial service opportunities and sustain equitable recreation services This will foster an economically viable recreation industry that can offer quality professional services to the public on a long-term basis

Forest Service Policies/Objectives: The following Forest Service policies or objectives are from Forest Service Manuals or Handbooks that are related to recreation-use allocations, and do not represent all policies applicable to special-use permits

Recreation Management (2340.2): The objectives are

* To offer, under special-use authorization, sufficient suitable facilities and services that supplement or complement those offered by the private sector, state, and local government, on private land, and the Forest Service on National Forest System Land to meet public needs, as determined through land and resource management planning,

* To facilitate the use, enjoyment, understanding, and appreciation of the National Forest, natural resources, and setting

Planning for Private Sector Uses (2341): Generally, the planning process for private use requires identification and justification of National Forest System sites and areas suitable for development, operation, and use by the private sector under special-use authorization through Forest Land and Resource Management Plans or addenda.

Needs Assessment for New Sites or Areas (2341.21): Before authorizing recreation activities, uses, and areas suitable for development of new sites or areas identified in forest plans, prepare a site-specific assessment including appropriate environmental analyses to determine

* The desirability and suitability for the intended purpose
* The nature and extent of needed development or services
* The social, economic, and environmental effects of use
* Required mitigation measures.
* Prospective applicants.

Trail, River, and Similar Recreation Opportunities (2350.2): The objective is to offer opportunities for a variety of recreation pursuits with emphasis on activities that are in harmony with the natural environment and consistent with the recreation role of the National Forest

Recreation Special Uses (2721.02): The objective is to issue and administer special-use permits for recreation uses that serve the public, promote public health and safety, and protect the environment

Outfitter-Guide Services (2721.53): This designation includes all commercial outfitting operations involving services for accommodating guests, transporting persons, and providing equipment, supplies, and material It also includes commercial guiding activities wherein the guide furnishes personal services as a leader or teacher

* Require all private parties conducting outfitter-guide services on National Forest System lands to have a special-use authorization

Wilderness Management - Management of Recreation (2323.11): The objectives of Wilderness recreation management are

* Offer, consistent with management of the area as Wilderness, opportunities for public use, enjoyment, and understanding of the Wilderness, through experiences that depend on Wilderness setting

* Offer outstanding opportunities for solitude or primitive and unconfined types of recreation

Recreation Policy (2323.11):

* Maximize visitor freedom within Wilderness Minimize direct controls and restrictions Apply controls only when they are essential for protection of Wilderness resources and after indirect measures have failed

* Use information, interpretation, and education as the primary tools for management of Wilderness visitors

* Manage for recreation activities that are dependent on the Wilderness environment so that a minimum of adaptations within Wilderness are necessary to accommodate recreation

* Consistent with management of Wilderness, permit outfitter-guide operations where they are necessary to help segments of the public use and enjoy Wilderness Areas for recreation or other purposes

Outfitter-Guide Operations (2323.13g): Address the need for and the role of outfitters in the Forest Plan The plan must address the types, numbers, and amount of recreation use that is to be allocated to outfitters Ensure that outfitters offer their service to the public in a manner that is compatible with use by other Wilderness visitors and that maintains the Wilderness resource

Visitor Management (2323.4): Plan and manage public use of Wilderness in such a manner that preserves the wilderness character of the area Limit the distribution of visitor use according to periodic estimates of capacity in the Forest Plan

Visitor Management to Protect Wildlife/Fish Resources (2323.38): The Wilderness Act requires managers to search for a balance between preserving the Wilderness resource (by protecting natural ecological processes that can cause plant and animal populations or ranges to change) and making it available for visitor use, and enjoyment To do both, it may be necessary at times to limit visitor use, to insure that human influences does not impair natural wildlife or fish populations

Public Need

Defining Public Need: "Need" is not the same as "demand" Public need is identified by the Forest Service, with input from citizens, and determines the types of outfitted services needed to meet agency objectives Market-generated demand, or applications for conducting outfitting, do not constitute need

Basis for Doing "Needs Assessment": A "Needs Assessment" is based on Forest Service policy which states -

> As identified in Forest Land and Resource Management Plans, allow commercial outfitter-guide services that address concerns for public health and safety and that foster small business

Encourage skilled and experienced individuals and entities to conduct outfitter-guide activities in a manner that protects environmental resources and ensures National Forest visitors receive high-quality services.

The *Wilderness Act* states that "commercial services may be performed to the extent necessary for activities which are proper for realizing the recreational or other purposes of the Act "

The *National Environmental Policy Act* requires disclosure of the "purpose and need" for any proposed action (e g., issuing additional outfitted use).

Public Need is based on these Wildland Objectives

* Conservation/stewardship of natural and cultural resources (air, water, soil, vegetation, wildlife, and cultural) Promote responsible use so that natural systems are sustained for future generations

* Public Service - enable people to obtain benefits such as personal growth, family/friend bonding, re-connection with nature, stress relief or personal reflection, physical exercise, risk, learning, or mental stimulation

* Visitor Safety - enable people to experience wildland settings in a manner that they perceive the risk is within their control

* Ensure National Forest visitors of all races, gender, and economic backgrounds have the opportunity to enjoy, experience, and learn about their public lands

* Contribute to people's quality of life and community economic sustainability

* Experience and qualifications for providing the potential service

* Financial ability to perform services.

Capacity Determination

Assessment of Current Supply and Future Opportunities

* Current Services

Conejos Peak Ranger District

Summer Services

Service	Mode	#Permits	Service Days	Area
Day use Rides	Horse	Five	1,400	Notch, Elk Creek (2), Hidden Lake, Bear Lake, Laguna Venado, Twin Lakes, Red Lakes, Cliff Lake, Red Mtn , Big Lake, Blowout Pass, Saw Mill Gulch, Kerr Lake, Fisher Gulch and Middle Fork

Service	Mode	#Permits	Service Days	Area
Day use fishing	Vehicle/foot	Three	270	Bennet Ck , Burro Ck , Poage Lake, Trujillo Meadows Reservoir, Lost Lake, Cliff Lake, Platoro Reservoir, Big Lake, District-wide, Upper Alamosa River, Crater Lake
Day use fishing	Horse	One	100	Lake Ann, Blue Lake, Kerr Lake, North Fork, Middle Fork and South Fork
Progressive Day Fishing	Horse	One	54	Crater Lake, S Zapata, Middle Zapata and Lost Lake
Overnight Camping	Horse	Four	537	Notch, Elk Creek(2), Hiden Lake, Elwood Pass, Timber Lake, Blue Lake
Rentals	Horse	One	50	Elk Creek, Hidden Lake
Cattle Drives	Horse	Three	1,068	Osier/Cumbres areas
River Rafting	Raft	One	50	Conejos River
Mtn Lion Hunts	Horse/foot	One	20	Medano - Zapata areas
Fall Service				
Packing Services	Horse	Two	100	District-wide
Archery & Muzzle loading	Horse	Five	641	Adams Fork, Cascade Ck , Gold Ck , Silver Ck , Red Mtn , Wightman Fork, Elk Ck , Cat Ck , Greenie Mtn , Middle Fork, Elwood Pass, Treasure Ck , Canon Bonito, Canon Rincon, North Fork, Blue lake
Combined Hunt	Horse	Six	835	Black Mtn , Adams Fork, Wightman Fork, Gold Ck , Red Mtn , Elk Ck , Cat Ck , Greenie Mtn , Medano Pass, Beaver Ck , Elwood Pass, SpringCk Cliff Lake, Treasure Ck , Canon Bonito, Hansen Ck , Middle Fork, North Fork and BlueLake
Winter Services				
Day Use Tours	Snowmobile	One	200	Cumbres Pass
Divide Ranger District Summer Services				
River Rafting	Rafting	Five	1,504	Rio Grande River
Rentals	Boat	One	618	Rio Grande River
Fishing	Wade	One	50	Rio Grande River
Biking	Mtn Bikes	One	30	Creede Area

Service	Mode	#Permits	Service Days	Area
Camping Overnight	Horse	Five	515	Goose Ck , Sawtooth Mtn , Archuleta Ck , Ruby Lakes, Wheeler GA
Progressive Camping Trips	Horse	One	354	District-wide
Progressive Trips	Llama	One	110	Utes and W Lost Trail
Progressive backpack trips	Foot	One	147	Utes, West Lost Trail, Wheeler GA and upper Rio Grande headwaters
Day Use Rides	Horse	Eleven	3,901	Trout C , Wheeler GA, Ruby Lakes, Little Squaw, Tewksberry, Fox Mtn , Metroz area, Long Ridge, Pole Ck , Finger Mesa, Utes, Goose Ck , Squaw Ck , Weminuche Ck, Shallow Ck
Day use hikes	foot	one	25	Pole Ck , Finger Mesa
Mtn Lion Hunts	Horse/foot	one	10	Forest-wide
(Winter/Spring)				
Fall Service				
Packing Service	Horse	five	104	Utes, Handkerchief area, Major, Weminuche Ck , Long Ridge, Ruby and Squaw Creek
Day use hunts	Horse	six	371	La Garita Ck , Embargo Creek, San Francisco Creek, Tie Hill area, Pole Creek
Combined hunts	Horse	eleven	466	McClellan, Rock Ck Area, Farmers Ck , Goose Creek, Oso Ck , Bennett Ck , Leopard Ck , Raspberry Ck , Bear Ck , Tie Hill area, Major Ck , W Lost Trail Ck , Squaw Ck
Winter Services				
Rentals	Snowmobiles X-cntry skis	Two	658	Groomed District Routes
Winter Caving & Survival	Snow	One	20	Weminuche Ck , Park Ck
Saguache Ranger District Summer Services				
Day use rides & fishing	Horse	Three	295	Machin Lake, Middle Frk Saguache Creek
Day use & overnight trips	Llama	One	80	Carnero Creek and La Garita Creek
Day use trips	Foot	One	40	Sangre Peaks
Progressive Camping	Horse	One	110	Sangre Range, Whale Ck , Wannamaker Creek
Camping	Foot	One	200	Sangre Range

Service	Mode	#Permits	Service Days	Area
Day use - educational	Foot	Two	54	Rito Alto/Venable Pass, Decker and Dorsey Cks
Camping- educational	Foot	Two	2,300	Sangre Range, Middle Ck
Camping	Horse	Three	195	Sangre Range
Mtn Lion Hunts (Winter/Spring)	Horse/foot	Two	20	District-wide
Fall Services				
Sheep Hunts	Horse/foot	Two	28	Sand Creek, Jones Ck , Rito Alto Ck , Deadman Creek
Archery & Muzzle-loading hunts	Horse	Two	102	Bear Creek, Miner Creek
Day use hunts	Horse	Five	165	Sangre Range, Northern and Western areas of the District
Combined hunts	Horse	Ten	806	Sangre Range, Rito Alto Creek, Wild Cherry Ck , Major Creek, Steel Cyn , Middle Fork Saguache Ck , South Fork Saguache Ck , Table Mountain, Kelly Creek, Whale Creek
Winter Services				
Winter Caving & survival	Foot	One	10	Sangre Range

* Desired Future Services For Meeting Public Need

1 Requested activities/opportunities from interested applicants (both potential outfitters/institutional entities)

Summer Activities - day use trail rides, day use hiking trips, river rafting, day use fishing (instructional and for senior citizens), wade fishing, jeep trips, rock climbing (instructional), camping trips with educational emphasis, llama trips, mountain bike tours and goat packing camping trips.

Fall Activities - archery and combined hunts

Winter Activities - snowmobiles tours, cross country ski trips (instructional and tours), telemark skiing and heliskiing

2 Future mix of activities/opportunities

Factors which could influence future participation in outdoor recreation activities are aging of the population, increased racial and ethnic diversity and increased urbanization (Dywer, John F , 1994)

The above mentioned factors, projected recreation trends and areas of concern (limited terrain, wildlife winter range, TES plant and animal species, areas of high mass soil movement, access problems, social conflicts, safety consideration) will be

taken into consideration when analyzing the amount, types and mixes of services to be solicited via prospectuses

The following potential services will be considered for future mix of services on the Forest (not an inclusive list)

Summer Services mountain bike tours, ATV tours, jeep tours, wade and instructional fishing, progressive hiking and camping trips (includes educational opportunities), cultural/historic tours, rafting (limited amounts), rock climbing (instructional), nature tours, environmental education trips, day use trail rides/hikes, underprivileged or kids at risk

Fall Services Limited - consider hunts geared to physically challenged, underprivileged or seniors

Winter Services Snow cat tours or skiing, snowmobile tours, cross country ski tours, telemark skiing (instructional), dog sledding tours, snowshoeing tours, sleigh rides, ice fishing and winter survival techniques/low impact camping

* Estimated Capacity Determination/Allocation

Reference Appendix AA. This appendix outlines by watersheds potential service days and allocations for commercial, institutional and non-commercial users These are baseline figures which will need to be monitored over a 3-5 year period to determine if changes may be needed

The service day allocations will help in the determination of (1) the potential services which may need phasing out, (2) the reductions in existing permitted service days, (3) the service days which will be available to existing permit holders, and (4) the service days available for future services to be solicited via prospectuses

RESOURCE PROTECTION MEASURES

Mitigation measures to reduce or prevent significant effects on the developed and dispersed recreation resources are outlined in the Forestwide Standards and Guidelines and Management-Area Standards and Guidelines in the Forest Land and Resource Management Plan.

ENVIRONMENTAL CONSEQUENCES

Actions Common to All Alternatives

Developed Recreation Sites The Forest will operate and maintain all of its existing developed recreation sites (campgrounds, fee and non-fee campgrounds, picnic areas, interpretive sites, boat ramps, and trailheads) Concessionaires will operate and maintain campgrounds and picnic sites

The Forest will assess the conversion of the following developed sites to concentrated dispersed areas

Conejos Peak District	Stunner and Alamosa Campgrounds,
Divide District	Rio Grande Picnic Area, Ivy Creek Campground, Rio Grande Campground, Lost Trail Campground and North Clear Creek Campground,
Saguache District	Luders and Stone Cellar Campgrounds

The existing road systems and toilets in these facilities will be retained.

During this next planning period, the Forest will place emphasis on major campground reconstruction work. Emphasis items include replacing deteriorating toilet vaults (1-2 per year) and fixing or replacing water distribution systems (1 per year)

The Forest will continue administering our capital investment program, which is included in the Region's Capital Investment Program (CIP)

Scenic Byway The two Scenic Byways on the Forest will continue to be an emphasis Coordination, development, and implementation of Scenic Byway Master Plans will continue during this next planning period.

Special-Use Administration' The RGNF will continue to administer 51 summer home permits, three resort permits and one youth camp permit, 60 outfitter-guide permits, and existing recreation event permits

We will continue to administer the Wolf Creek Ski Area special-use permit and monitor their summer and winter operating plans.

Capacity Determination: Monitoring identified watersheds annually, in conjunction with the outfitter-guide capacity determination, will be necessary for a 3-to-5 year period, to see if allocations are adequate or if revisions will be needed

Cabin Rental Program: This program will continue, including the Brewery, Carnero, Fitton, Elwood and Alamosa Guard Stations The Alder Guard Station will continue to be administered under special-use permit.

Direct and Indirect Effects

Recreation Opportunity Spectrum(ROS Settings):

Recreation opportunities are affected by management restrictions, competing uses for a finite resource, and the type and availability of recreation facilities The range of recreation settings available on the Forest influences the amount and type of motorized and nonmotorized recreation activities Table 3-95 outlines the Recreation Settings by Alternative

Table 3-95 ROS Setting by Alternative

CATEGORY	ROS by ALTERNATIVE						
	A	B	D	E	F	G	NA
Primitive	50%	22%	22%	28%	33%	22%	23%
SPNM	5%	19%	23%	19%	29%	19%	13%
SPM	8%	15%	13%	11%	14%	17%	16%
Modified Roaded	32%	39%	37%	37%	19%	37%	42%
Rural	--	--	--	--	--	--	1%
Private	5%	5%	5%	5%	5%	5%	5%
	100%	100%	100%	100%	100%	100%	100%

Budget Effects: As mentioned in the Wilderness section, historically, the Forest Service has not been allocated budgets sufficient to implement Forest Plans fully There will be recreation budget shortfalls for all Alternatives at the experienced-budget level

Alternatives F ($416 7), D ($375 0), B ($346 7), and E ($307.0) have the largest budget shortfalls, with Alternative G ($275.8) having a moderate shortfall and Alternatives NA ($157 2) and A ($128 1) having the least budget shortfalls

The budget shortfalls will have the following effects For Alternatives F, B, D, and E, the shortfalls would require closure of our non revenue campgrounds and possibly other developed sites, significantly reduce the number of special-use permits and recreation events administered and monitored, reduce the miles of Forest trails maintained annually and substantially reduce trail reconstruction work, and reduce our overall recreation monitoring

For Alternative G, the shortfall would affect the Forest's non-revenue campgrounds and require their closure or conversion to high-use dispersed areas, reduce the number of special-use permits administered and monitored, and affect the miles of Forest trails reconstructed annually It could also affect the scheduling of some recreation monitoring

For Alternatives NA and A, the shortfall would cause reduction of the number of special-use permits administered and monitored, and affect the number of miles of Forest trails reconstructed It might also affect the scheduling of some recreation monitoring

Should there be annual increases in the recreation budget, the priority for these increases would be to

* meet our recreation monitoring requirements,
* keep our developed sites open and meet our developed-site standards,
* maintain and reconstruct our Forest trails, and
* administer and monitor our Forest special-use program

Effects on Recreation from Travel Management

The greater the shift from unroaded recreation opportunities to roaded ones, the more travel restrictions come into effect Alternatives A, F and E offer the greatest amount of non-motorized recreation settings, with a majority of the unroaded areas recommended for inclusion in the National Wilderness Preservation System Where motorized travel is allowed, travel is restricted to designated Forest roads and trails

In Alternatives B, D, NA, and G, opportunities are available for motorized use on Forest trails in unroaded areas and on Forest roads. Motorized travel is restricted to designated Forest roads and trails

In Alternative G, the Backcountry Prescription is used The prescription is different from the Backcountry Prescriptions used in the other Alternatives in that use is not segregated as in Backcountry Motorized or Backcountry Motorized In order to provide a balanced mix of motorized and nonmotorized recreation opportunities the trail inventory was adjusted The trails listed in Table 3-90, below identify the trails that will be limited to nonmotorized access and the rationale for selecting them The process used is as follows.

Members of the Forest Planning IDT met to take a comprehensive look at the RGNF Trail System in Backcountry areas and examine these trails for the potential to support motorized or nonmotorized uses The group developed criteria to assess the trail system against These criteria included

* Areas of Soil Mass Movement Potential (includes steep slopes)

* Riparian and wetlands

* Backcountry Prescription Areas

* The current Forest Road and Trails

In addition, the group screened the trails for other concerns including wildlife habitat, and TES plant and animal species The group identified trails using these criteria and recommended modifications to the trail system to the Ranger Districts The District recreation and trail personnel had the opportunity to review the criteria and the recommendations and refined the motorized and nonmotorized trail recommendations The trails listed in Table 3-96, below display the nonmotorized trails and the criteria used to select them

Table 3-96. Reasons for Nonmotorized Trails

	Resource Concerns			Access Issues				Other Issues
	Wildlife	Riparian	Soil & Steep Slopes	Alternative Routes Available	Private Access Concerns	Wilderness	Currently Non-motorized	Costs, Distances to Wilderness, etc
Conejos Peak District								
Treasure Trail								Short distance access to S San Juan wilderness
Trail #707								Short distance access to S San Juan Wilderness
Notch Trails					X		X	Nonmotorized as part of the Travel Mgmt Plan
Elk Crk Trail (#731)							X	Nonmotorized as part of the Travel Mgmt Plan Short distance access to S San Juan Wilderness
Duck Lake Trail (#732)		X						Proposed as nonmotorized by Dist
La Manga Trail (#733)		X						Short distance access to S San Juan Wilderness
East Fork of Rio Chama (#738)			X	X				Duplicate Trails
West Fork of Rio Chama (#740)			X	X				Duplicate Trails, Proposed as nonmotorized by Dist - Between trails 740 11 and #738 only
CDNST (#813)	X		X			X	X	Nonmotorized as part of the Travel Mgmt Plan From Wolf Creek to Elwood Pass and From Flat Mtn To the NM Border
Divide District								
Dry Crk Stock Driveway (#700)			X	X				Proposed as nonmotorized by Dist From Junct of #702, East to Forest Boundary
North Fork Rock Crk (#701)		X		X	X			
Pheonix Park (#787)						X		Acess to La Garita Wilderness
Upper End of Inspiration (#789)						X		Acess to La Garita Wilderness

Table 3-96. Reasons for Nonmotorized Trails- continued

		Resource Concerns			Access Issues				Other Issues
		Wildlife	Riparian	Soil & Steep Slopes	Alternative Routes Available	Private Access Concerns	Wilderness	Currently Non-motorized	Costs, Distances to Wilderness, etc
Divide District									
Farmers Crk	(#801)		X				X		Access to La Garita Wilderness
Sawmill Gulch	(#804)			X					Trail Dead-ends
Deep Creek	(#806)	X	X	X					
Trout Crk	(#811)		X			X		X	
CDNST	(#813)						X		From Kite Lake to Hunchback Pass
CDNST	(#813)			X				X	Terrain prevent motorized travel
Fern Crk	(#815)			X					From Little Ruby Lake to Weminuche Wilderness
Heart Lake	(#823)							X	
Raspberry Gulch	(#830)					X		X	Nonmotorized per Trout EIS
Elk Crk	(#833)					X		X	Nonmotorized per Trout EIS
East Fork of San Francisco Crk	(#848)	X	X						Cutthroat Trout
West Bellows Crk	(#871)					X			No Public Access
Little Bennett Crk	(#876)		X						
Middle Fork of San Francisco Crk	(#879)	X	X						Cutthroat Trout
Willow Crk	(#881)	X				X			Right-of-way concerns
Red Mtn Crk	(#896)			X		X			
Shallow Crk	(#897)	X	X						

Table 3-96. Reasons for Nonmotorized Trails- continued

	Resource Concerns			Access Issues				Other Issues
	Wildlife	Riparian	Soil & Steep Slopes	Alternative Routes Available	Private Access Concerns	Wilderness	Currently Non-motorized	Costs, Distances to Wilderness, etc
Divide District, continued								
Pole Crk (#918)		X						
South Fork Guard Station to Church Crk (#933)			X		X			Poor condition, hunting season conflicts
Saguache District								
Upper Middle Fork (#744)						X		Access to La Garita Wilderness
Luders Crk (#755)		X	X					Resource Concerns
Indian Crk (#766)		X	X					Important backcountry area
East Middle Crk (#767)		X	X					Important backcountry area
Middle Crk (#768)		X	X					Important backcountry area
Wagon Wheel Cutoff (#772)		X	X					
Fourmile Crk (#774)		X	X		X			
Saguache Crk (#776)								Eligible Wild/Scenic River
Bear Crk (#778)				X				Proposed as nonmotorized per District EA
Deep Crk (#779)				X				Proposed as nonmotorized per District EA
Miners Crk (#785)			X					Administrative Concerns
California Gulch (#906)								Intersects eligible wild/scenic river
Wannamaker (#908)				X				Proposed as nonmotorized per District EA, Resource concerns

In Alternatives NA, B, and D, and in most areas in E and G, during the winter months, snowmobiles are allowed to travel off forest roads and trails (except Wilderness Areas, deer/elk winter range, and bighorn sheep areas). In Alternatives A and F, during the winter months, snowmobiles would be restricted to designated Forest roads and trails Snowmobile use is concentrated in specific areas of the Forest, due to restrictions imposed by terrain Review of the literature does not support restrictions beyond those already in place

In Alternatives B and NA, game retrieval is allowed in most areas of the Forest. In Alternatives A, D, E, and F, game retrieval would be restricted to Forest roads and trails only. In Alternative G, game retrieval will be prohibited in backcountry areas having nonmotorized trails, restricted to designated trails in backcountry areas having motorized trails, and open in all other areas on the Forest

(Refer to the Travel Management Section for more detailed information)

Effects on Recreation from Wilderness Management

Alternatives A and F have the greatest acreage on the Forest in Wilderness and/or Core Areas, which will affect outfitter-guide allocations and may require a permit system to limit the amount of use occurring within Wilderness (Alt A) and Core Reserve Areas (Alt F) Motorized-recreation opportunities are limited The dispersed-recreation program will emphasize interpretation, backcountry ethics, and visitor education

Under Alternative E, some unroaded areas are recommended for Wilderness, with provisions for both motorized- and nonmotorized-recreation opportunities outside Wilderness Limiting factors are applied in Wilderness Areas to restrict the amount of recreation use A permit system may be needed to limit visitor use in heavily used areas (well-known lakes and destination locations). Backcountry areas outside Wilderness would be available to handle displaced Wilderness users Wilderness education, leave no trace camping, and a full-scale interpretation program will be emphasized

Alternatives NA, B, D, and G have a mix of existing Wilderness and backcountry areas (motorized and nonmotorized) Visitor displacement and restrictions would be limited under these Alternatives A permit system may be needed in certain heavily used areas (well-known lakes or destination locations) in the Wilderness Visitor education and interpretive facilities and programs will be emphasized

Recreation Effects

Under all the Alternatives, recreation use is expected to increase

Developed Recreation Sites (Areas of Concentrated Use): Recreation use within developed sites is localized, with relatively few acres impacted Impacts affect vegetation, soil, and water quality Because these areas are used every year, the impacts tend to be long-term. Implementation of Forestwide Standards and Guidelines, Management-Area Standards and Guidelines, and proposed campground rehabilitation work will mitigate these impacts.

Campfires in campgrounds could affect air quality for short durations, due to inversions. This is confined to campground areas and sections of recreation travel corridors Since these are for short durations, air quality standards are not violated

There are some impacts on wildlife when these sites are in use For some species, use causes short-term displacement, due to noise and various activities For other species (chipmunks, bears, Steller's jays), behavioral patterns are changed and campgrounds become sources of food The Forest is implementing management regulations (installing bear-proof garbage containers, eliminating bird feeders, and requiring clean camps in backcountry areas) to reduce conflicts between humans and bears

Another impact from recreation use is on fisheries This impact is minimized through the stocking of streams and rivers with native fish species, and catch-and-release programs on rivers and lakes

Dispersed Recreation. Disturbance of natural areas as a result of recreation use has typically been defined as resource or ecological impact An impact can be a positive or negative change. In wildland areas, a value judgement has been placed on the term "impact," denoting an undesirable change in environmental conditions The type, amount, and rate of undesirable change occurring in the resource base results from recreation use. "Undesirable change in the resource base" is defined to mean degradation of the soil, vegetation, wildlife, and/or water resources.

In a recreation context, impacts only become good or bad, important or insignificant, when humans make value judgements about them Those judgements are determined primarily by the type(s) of recreation an area is managed to offer, the objectives of the various user groups, and the objectives of resource management Conflicts, resulting from different perspectives on ecological and social impacts, commonly occur between motorized and nonmotorized recreationists, whether the recreation occurs on land, water, or snow (Hammitt and Cole, 1987)

Dispersed recreation on the RGNF occurs mainly along recreation travelways (corridors, trails), around lakes/reservoirs, along rivers and streams, and on snow Impacts tend to be more widely distributed across the Forest, but concentrated along travel routes, lakes, streams, or rivers

Because humans are a part of all ecosystems, management of backcountry areas emphasizes efforts to maintain natural site environments in which human impacts and influences are minimized as much as possible, while allowing recreational use Management goals in backcountry areas includes maintaining environmental changes within acceptable limits (Hammitt and Cole, 1987)

Nonmotorized Dispersed Recreation: Hikers and horse users in backcountry areas generally impact vegetation, soils, and water quality The amount of impact depends on group size, type of user, and length of stay at a specific site These impacts can be mitigated by implementing Forestwide Standards and Guidelines, educating users about low-impact techniques, and regulating the amount of use by designating camping areas, should resource impacts warrant management regulations

The relationship between the amount of recreation use and wildlife impacts is not well understood or studied There is evidence that the effects of human-wildlife interaction depend more on the frequency of human presence than on the amount of total recreation use or the number of people present at any one time (Hammitt and Cole, 1987)

Seasonal restrictions on travel and activities may be needed, should long-term impacts on wildlife be determined through monitoring If Threatened or Endangered wildlife species are found in certain areas on the Forest, recreation opportunities within the backcountry might be affected, if area closures are necessary. (For more detailed analysis of recreation effects on wildlife, see the Wildlife/TES section in this chapter)

Motorized Dispersed Recreation: Motorized recreation on the Forest takes place in the summer and winter. In the summer, it occurs on Forest roads (jeeps, motorcycles, 4-wheel-drive vehicles, and sedans) and Forest trails (motorcycles, ATVs) Mountain bikes also use these areas but are not included on the list of motorized equipment

Since these vehicles tend to cover more ground and longer distances, their impacts become more widespread and pronounced These impacts are on road and trail surfaces, as well as soil compaction and erosion, noise, and the need for more road and trail maintenance Since motorized use is restricted to designated roads and trails, this minimizes the extent of resource damage and impacts by motorized users

During the hunting season (an eight-week period), hunters are allowed to retrieve game with ATVs from noon until dusk Impacts related to this activity involve damage of gates, plus disturbance of vegetation, soils, stream banks, meadows, and wetlands This use occurs in the fall, and -- depending on rain and snow conditions -- may increase resource damage The Forest will mitigate some of this impact by implementing game retrieval restrictions in backcountry areas. In backcountry nonmotorized areas, game retrieval with ATV's will be prohibited and motorized backcountry areas, game retrieval with ATV's will be restricted to designated trails

In winter, motorized recreation takes place throughout the Forest, with snowmobiles With the exception of Cumbres Pass, the Lobo area, Wolf Creek Pass, and Snow Mesa, most snowmobile use is on groomed roads and trails (Refer to the Unroaded Area section which has a map showing where snowmobile use presently occurs on the Forest)

The Forest will maintain its present policy of allowing snowmobiles off forest roads and trails during the winter months The Cumbres Pass, Lobo area, and Wolf Creek Pass area will be monitored to determine if management regulations will be implemented, to mitigate conflicts between cross-country skiers and snowmobilers

Effects on Recreation from Range Management

Annual allotment operating instructions can address adjustments in the management of livestock, in order to mitigate certain recreation conflicts between recreation users and livestock or issues on allotments Issues related to livestock numbers, adjustment in on-off dates, or possible removal of allotment pastures will have to be addressed when allotments are scheduled for analysis and new Allotment Management Plans are written.

In Alternatives NA, B, D, and G, as allotments are scheduled for analysis and new management plans written, these will determine if an extensive grazing system is needed, if on-off dates are to be adjusted, or if permitted AUMs need reducing and measures should be implemented to mitigate recreation conflicts specific to those being analyzed

In Alternatives A and E, an extensive grazing system within those unroaded areas recommended for Wilderness will be implemented, which could affect the permitted AUMs on these allotments In Alternative F, because of the proposed grazing-utilization standards, significant reductions in AUMs would be implemented within Core Reserves and Limited Use Areas, with eventual phasing-out of grazing on these allotments

Effects on Recreation from Timber Management

Under all Alternatives, timber activity would be allowed in campgrounds or along recreation corridors, when needed to meet recreation and scenery-management objectives In campgrounds, hazard trees are marked and removed annually In recreation corridors, timber harvesting could be scheduled due to insect and disease epidemics or blowdown conditions, or when thinning would improve the scenery in the corridor

Acres affected and timber volumes removed are generally low, and impacts minimal Forestwide timber and scenic Standards and Guidelines will be implemented to mitigate these activities.

Effects on Recreation from Mineral Exploration and Extraction

Hard Rock Mining In all Alternatives but Alternative G, mineral- entry withdrawals will be pursued for all campgrounds and for backcountry nonmotorized-recreation areas having high locatable-mineral potential, and that have the greatest risk of development All other recreation areas will be available for mineral entry Mineral disturbance is expected to be minimal, and operating plans will cover required mitigation measures associated with mining access and activities

In Alternative G, unroaded areas will be available for locatable-mineral entry Congressional action is needed for these large unroaded acreages to be withdrawn, and the Forest does not have the personnel or funding to pursue these withdrawals Mineral disturbance is expected to be minimal, and Annual Operating Plans will cover required mitigation measures associated with mineral access and activities

Oil and Gas Leasing In Alternative NA, the backcountry motorized and nonmotorized areas will be available for leasing under the standard leasing terms and Stipulations Should exploration occur, the character of these areas will change, due to the road construction needed for access The maximum area disturbed would be 129 acres. An Environmental Assessment will be needed to determine whether access to these areas would be permitted

In Alternatives A and E, all the areas allocated to recreation (recommended Wilderness areas, backcountry nonmotorized and motorized areas, Scenic Byways and dispersed-recreation areas) will be closed to leasing This will not affect the allocated recreation areas, but will limit the areas available to oil and gas leasing

In Alternative B, there are two options. In option B1, all areas allocated to recreation (backcountry motorized and nonmotorized, Scenic Byways and dispersed-recreation areas) will be available for oil and gas leasing under the standard leasing terms and Stipulations Should exploration occur within the backcountry motorized and nonmotorized areas, it will change the character of these areas. The direct effects are the same as those outlined in Alternative NA mentioned above

In option B2, the backcountry motorized and nonmotorized recreation areas will be available for lease under the No Surface Occupancy terms, and Scenic Byways and dispersed-recreation areas will be available for lease under the Controlled Surface Occupancy terms There will be minimal effects to the recreation resource

In Alternative D, the effects to the recreation resource are the same as outlined in option B 2 above

In Alternative E, all allocated recreation areas (backcountry motorized and nonmotorized, Scenic Byways and dispersed-recreation areas) will be closed to leasing Effects on the recreation resource will be minimal

In Alternative F, the backcountry motorized and nonmotorized recreation areas will be available for lease under the No Surface Occupancy terms Those portions of the Forest allocated as Core Reserves will be closed to leasing Scenic Byways and dispersed-recreation areas will be available for lease under the Controlled Surface Occupancy terms Under the leasing terms and Stipulations, there will be minimal effects on the recreation resource

(Refer to the Minerals section in this chapter for more detailed information regarding locatable-mineral activity and oil and gas exploration)

CUMULATIVE EFFECTS

The *Comprehensive Tourism Marketing Analysis Report for Southern Colorado's San Luis Valley* (J R. Ogden and Associates and Resort Resources, Inc , 1990) lists the main activities enjoyed by visitors coming to the San Luis Valley as fishing, hiking, skiing, and hunting, with summer and fall being the major times visitors travel to the Valley

Several long-term factors directly associated with visitor lifestyles could directly affect visitations to the RGNF These factors are·

* There is a rapid growth in single-parent households and an increase in outdoor activities by senior citizens and the handicapped

* By the turn of the century, the senior market (50+ age group) will increase as the baby-boom generation joins this market and their life span increases This group will participate in more group activities

* Time constraints and conflicts, due to increasing work hours and the number of dual-income families, and decline in real income, will affect visitors' travel patterns and result in shorter but more frequent trips and more weekend vacations

* The quality of service we offer and our ability to meet visitors expectations will determine how much time visitors spend on the Forest pursuing outdoor recreation activities

Local communities within the San Luis Valley have recognized, and will continue to recognize, recreational opportunities as key to attracting visitors to the Valley and important to stabilizing their economies

Coordination and cooperation with local tourism boards will be important in setting common goals, providing quality service, and maintaining community stability Alternatives that substantially alter recreation use or do not provide a wide range of recreation opportunities can adversely effect local community economies and stability

The RGNF is a very scenic backdrop to the San Luis Valley, and offers a wide range of recreational settings and facilities to meet visitor's expectations Each Alternative has a mix of developed- and dispersed-recreation opportunities but the number and location vary among Alternatives

Alternatives A and F emphasize developed recreation facilities and scheduled rehabilitation work These Alternatives have the greatest acreage allocated to nonmotorized recreation, with very limited opportunities for motorized recreation

Alternatives B, and NA have the maximum development of recreation facilities and the largest acreage available for motorized recreation Alternative D, E, and G have a moderate amount of rehabilitation and expansion of developed recreation facilities, within the area's capability, in addition to offering both motorized- and nonmotorized-recreation opportunities outside Wilderness

SCENIC RESOURCES

ABSTRACT

The Forest Service's Scenery Management System was developed to address increasing public concern about the quality of scenery on National Forests In Colorado, recreation and tourism are a strong component of the state's economy It is especially important, therefore, that activities on National Forests in this state blend with the existing landscape, to enhance the visitor's recreation experience

The goal of scenery management is to minimize, if not prevent, any contrast between human activities and natural settings The Scenery Management System helps us decide how to manage human activities on the ground to maintain, enhance, or rehabilitate scenery

Several components make up the Scenery Management System, including Landscape Character Themes, Inherent Scenic Attractiveness, Distance Zones, and Constituent Information These components help to formulate the five Scenic Integrity Objectives

Theses components help in turn, to formulate the five Scenic Condition Objectives Very High, High, Moderate, Low, and Very Low.

Most of the RGNF is in a natural-appearing condition, with a small amount of disturbance in some viewsheds These viewsheds have been identified for rehabilitation to bring the scenic resources closer to a more natural forested condition

We expect Alternatives A and F to result in more natural-looking landscapes over the entire Forest. This is because of the themes of Alternatives, the amount of the Forest allocated to Backcountry or Core Reserve Management Prescriptions, and the lower levels of timber harvest. Alternatives B, D, and NA will result in modified landscapes in some areas, again because of the Alternatives' Themes, Management Area-prescriptions, and the amount of timber harvest in each Alternatives E and G will result in more natural-appearing landscapes over much of the Forest In these Alternatives, resource development will occur primarily in areas of the Forest that have been developed in the past, but future activities will be designed so that they resemble disturbances that occur naturally

INTRODUCTION

Legal Framework

The management of scenic resources is required by the *National Environmental Policy Act of 1969,* the *Forest and Rangeland Renewable Resources Planning Act of 1974,* and the *National Forest Management Act of 1976* These Acts ensure that the scenic resource is treated equally with other resources The RGNF has included scenic values in management considerations since the development of the Visual Management system over 20 years ago

In recent years there has been a need to link the Visual Management System more closely with ecosystem management, and incorporate new information and technology This prompted the development of the Scenery Management System In 1995 this methodology was adopted on the RGNF, and the visual resource is now termed "Scenic Resources "

What Is Scenery?

The visual experience (scenery) in the Rocky Mountains is made up of many different elements, such as landforms, vegetation patterns, water features, rock formations, and light It may also include evidence of humans timber harvest, roads, fences, utility corridors, structures, homes, communities When we experience the landscape, scenery combines all the ecological features and the human elements The composition of these attributes is what gives a landscape its character or image. Since people often use emotional terms to describe their experiences in landscape settings, it suggests that these experiences are a combination of much more than what we see or touch Indeed, human interaction with landscapes is something shared by all cultures of the world (*Landscape Aesthetics Draft,* 1994)

Scenery Management recognizes and works with both the physical elements and the human-made elements in the landscape It focuses on the physical qualities that make a landscape beautiful, and the cultural elements that relate to human experiences Whether

those cultural elements show traditions of the past or the images of a modern technological society, they give people a connection to the landscape and a "sense of place " Most important, scenery management offers the opportunity to prove that beauty, biological diversity, and economic opportunity can be sustained in a well-designed and well-managed landscape (*Landscape Aesthetics Draft,* 1994)

Beauty in a landscape is an essential part of the human psyche Everyone needs pleasing landscapes for their emotional and physical well-being Most Rocky Mountain settings include a diverse and dynamic landscape It is no wonder that Colorado and the Rocky Mountains play host to so many recreational activities, including driving to enjoy the scenery *(Landscape Aesthetics Draft,* 1994)

Scenery on the RGNF

There are over 191,553,355 acres of National Forests and Grasslands nationwide Colorado ranks sixth-highest in the nation, with about 14,471,811 acres of National Forests and Grasslands that offers an abundance of recreation possibilities for tourists As mentioned above, driving for pleasure is the most popular activity With 21 designated Scenic Byways in Colorado, scenery is a major attraction for the state

For Colorado and most of the Rocky Mountains, tourism is a primary source of income There is a direct tie between beautiful scenery and local economic benefits. Like any other commodity, protecting the scenic resources helps protect the economy We know, based on Forest surveys, that many people who come to Colorado for recreation also come for the outstanding scenery The *Report of the President's Commission on America's Outdoors* (Alexander et al , 1986) states that American's most important attribute for a recreation area is natural beauty

The RGNF makes up 13% of the National Forest System lands in Colorado The Forest has two designated Scenic Byways, the Silverthread and Los Caminos Antiguos, and an abundance of roads and trails that make scenery very accessible to many recreationists In addition, there are many outfitter and guide services that provide people the opportunity to experience the outstanding scenery, as well as Wolf Creek Ski Area, which had 140,456 visitors in the 1993/1994 season

The Forest falls is in the south-central portion of the Rocky Mountain Range Because of this, it offers a unique scenic experience The Forest combines the visually unique flora of the Southwest with the Northern Rocky Mountains (See Biodiversity Assessment) To the east, the open valley floor is surrounded by the white mountain peaks of the Sangre de Cristos These mountains descend into steep slopes of colorful aspen against a background of alpine fir, spruce, and pinon juniper that abruptly ends at the valley floor To the north, the high mountain peaks give way to much gentler rolling hills covered by lodgepole pine, which descend more gradually to the valley bottom To the west, the scattered mountain peaks are interspersed with rolling hills and foothills of mixed rock canyons and open meadows The southern portion of the valley is fairly flat, with several dominant, rounded mountains that rise above the horizon

These characteristics offer visitors some of Colorado's most impressive scenery. The Sangre de Cristo Range is home to several of Colorado's 14,000-foot peaks, such as Crestone Peak,

Kit Carson Mountain, and Blanca Peak, and also the Great Sand Dunes National Monument These are a few of the most-photographed areas within the Sangre de Cristos

The western part of the Forest has spectacular views of the Rio Grande Pyramid, the 100-foot high North Clear Creek Falls, Bristol Head Mountain, the headwaters of the Rio Grande, and the Weminuche Wilderness. There are a host of open parks and meadows, such as Saguache Park, that contain a variety of plant and animal life, including a wide range of wildflowers In addition, several historical scenic areas, including the Bachelor Loop, the Bonanza Loop, the Cumbres and Toltec Scenic Railroad, and many other individual historic buildings are located throughout the Forest Tucked within the foothills are many unique rock formations like the Natural Arch and Summer Coon Volcanic Areas There are several canyons of rounded rock formations such as Penitente, Witches, Sidewinder, and The Rock Garden Canyons, known worldwide by avid rock climbers

Why Measure Scenic Resources?

The Forest has been measuring its scenic resources since 1973 according to the standards of the Forest Service Visual Management System This system was developed in 1969 by a group of landscape architects, to help address increasing public concern for the quality of the visual environment A series of *National Forest Landscape Management* handbooks was developed to help inventory, plan, and manage visual resources In 1971, the Forest Service formally recognized the importance of managing visual resources The Forest Service Manual declared that they are to be "treated as an essential part of and receive equal consideration with the other basic resources of the land."

In recent years, updates to this system have occurred, which help us better address visitor expectations and desires, and also fit into the framework of ecosystem management In 1993, the RGNF began converting the Visual Management System to the New Scenery Management System

AFFECTED ENVIRONMENT

Scenic Integrity Levels

Scenic Integrity Levels are described as Existing, Achievable, or an Objective The Scenic Integrity is a measure of the magnitude of human-caused alterations, such as harvest activities, roads, utility corridors, and structures These alterations change the form, line, color, and texture of the landscape

Existing Scenic Integrity

The Existing Scenic Integrity represents the status of the landscape and the degree to which it has been altered. This can be mapped in two ways The first process is called the physical method and is mapped using aerial photographs. It uses the following six conditions.

1	Very High	(unaltered)
2	High	(appears unaltered)
3	Moderate	(slightly altered
4	Low	(moderately altered)

5 Very Low . . . . . (heavily altered)
6 Unacceptably Low . . . (drastically altered)

The Experiential Method is the second process used to describe Existing Scenic Condition. It identifies cumulative effects on a viewshed or landscape unit, based on the percentage of the viewshed disturbed The Scenic Integrity is mapped using one of these four general descriptions

* Natural-Appearing — A viewshed where no more than 5% of the area is visually modified
* Slightly Altered — A viewshed where no more than 10% of the area is visually modified
* Moderately Altered — A viewshed where no more than 20% of the area is visually modified
* Heavily Altered — A viewshed where more than 20% of the area is visually modified

A combination of the Physical and Experiential methods was used to arrive at the Existing Scenic Integrity for the RGNF The terms used for the Experiential Method were adopted to help simplify the inventory Process

The Existing Scenic Integrity serves as a benchmark as we monitor landscapes to assess changes associated with planned management activities In addition, Existing Scenic Integrity helps locate and rank areas in need of scenic rehabilitation.

Table 3-97 displays the Existing Scenic Conditions for the RGNF

Table 3-97. Existing Scenic Conditions

Existing Scenic Condition	Acres	% of Forest
1 Natural Appearing	1,506,638	81%
2 Slightly Altered	288,383	16%
3 Altered Appearing	34,674	2%
4 Heavily Altered	26,842	1%

Scenic Integrity Levels and Objectives

Scenic Integrity Levels are produced through an overlay process using the various components of the Scenery Management System (RGNF Scenic Resources, Clum, 1996) A scheme of Scenic Integrity Levels has been developed for each Alternative based on the theme of the Alternative Scenic Integrity Levels will become Scenic Integrity Objectives after a Forest Plan Alternative has been selected Scenic Integrity Objectives are then adopted, which determine the Forest's management of scenery

There are six Scenic Integrity Levels, of which only five can become objectives The Scenic Integrity Levels are

1 Very High (unaltered)
2 High (appears unaltered)

3 Moderate (slightly altered)
4 Low (moderately altered)
5 Very Low (heavily altered)
6 Unacceptably Low (cannot be used as an objective)

Unacceptably Low cannot be a Scenic Integrity Objective This term is only used to describe the existing scenic integrity If an area is identified as "Unacceptably Low," it is an indication that the area is in need of scenic rehabilitation.

Rehabilitation is normally triggered when existing alterations or the cumulative effects of alterations over time do not meet Scenic Integrity Objectives Rehabilitation is also a long-term management goal and clearly identified as an Achievable Scenic Integrity Objective Prioritization of rehabilitation projects will consider the following

1 Scenic importance

2 Amount of discrepancy between Existing Scenic Integrity Levels and Scenic Integrity Objectives of the area

3 Length of time it would take natural processes to bring the area into conformance with Scenic Integrity Objectives

4 Length of time it would take rehabilitation to bring areas into conformance with Scenic Integrity Objectives

5 Cost

6 Effects of rehabilitation with other resource values

Figure 3-93 through 3-3-98 show examples of the different Scenic Integrity Levels

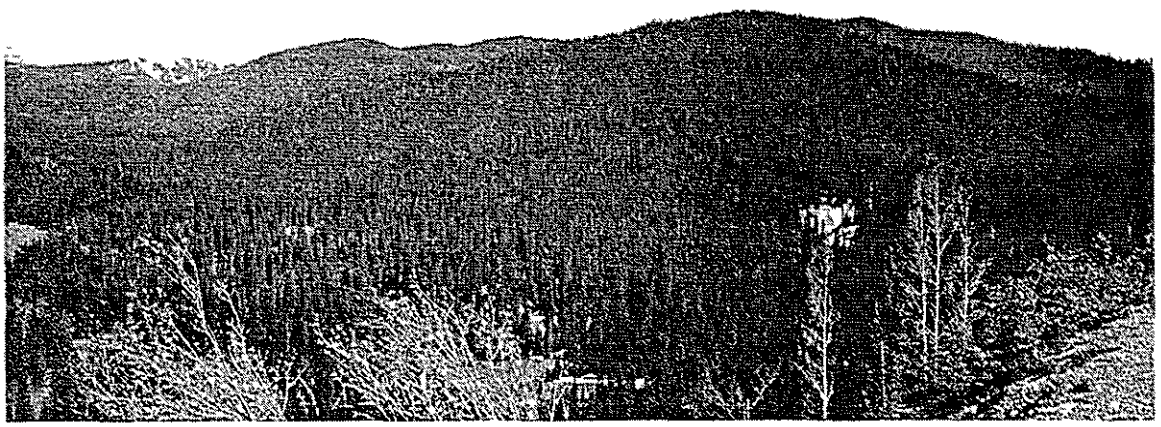


Figure 3-93 Very High- Only ecological or naturally occurring changes allowed

Figure 3-94 High- Alterations are not readily apparent to most people

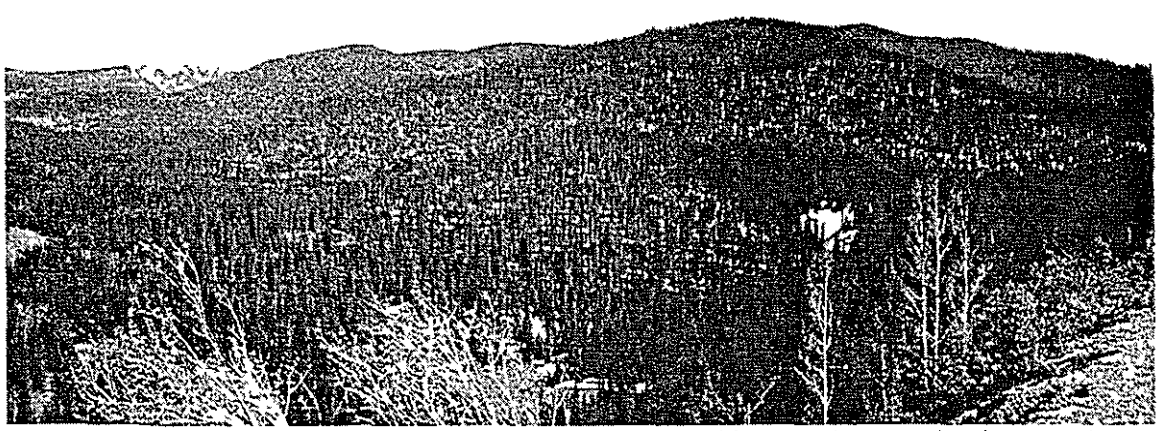


Figure 3-95 Moderate - Human alterations are limited to modifications that are subordinate to the natural or natural-appearing landscapes

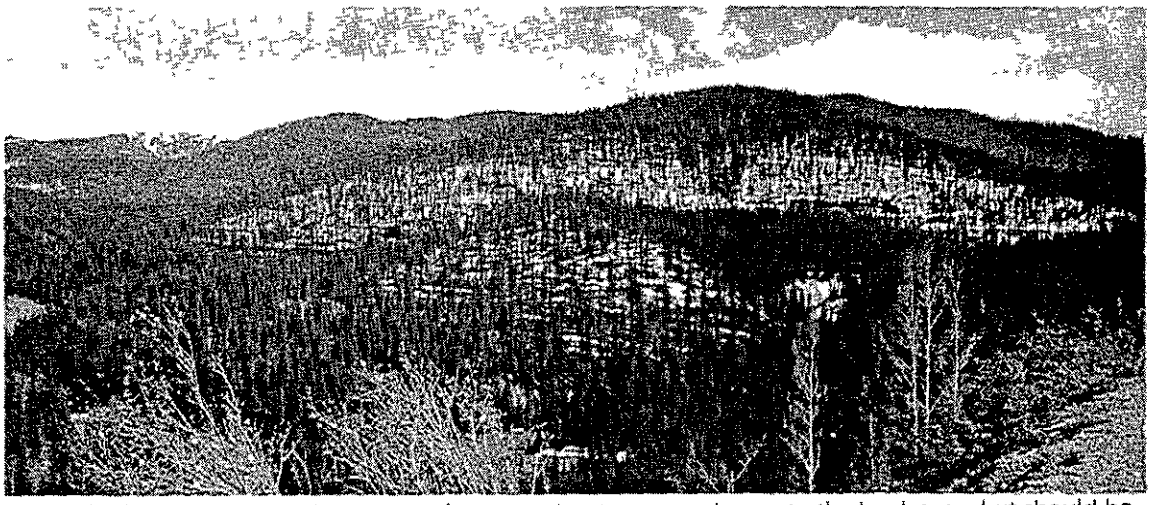


Figure 3-96. Low - Human Alterations in foreground settings may dominate the landscape, but should be blended into vegetative patterns in the general landscape composition

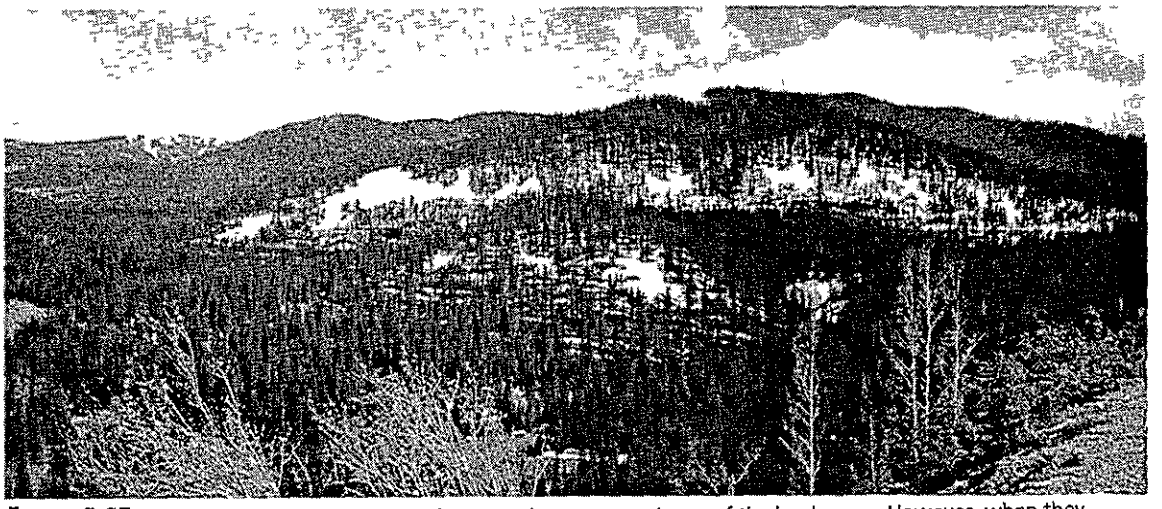


Figure 3-97 Very Low - Human Alterations dominate the scenic attributes of the landscape However, when they affect a viewable background, these alterations must borrow from the scenic attributes within the unit or surrounding area

Figure 3-98 Unacceptably Low - Human alterations are excessive and out of scale with the natural-appearing landscape

RESOURCE PROTECTION MEASURES

Forest Plan Standards and Guidelines direct rehabilitation, enhancement of scenic quality, integration of aesthetics in resource planning, and efforts to vary stand densities to create vegetative diversity Examples of commonly used mitigation efforts are revegetation of disturbed sites, choice of materials, colors for structures that reduce their visibility, placement of utilities underground, design of timber harvest units to blend with the natural landscape, and possibly use of some vegetative screening These measures will help us meet the intent of the legal framework and objectives outlined in the *National Forest Management Act*

ENVIRONMENTAL CONSEQUENCES

The RGNF has a diverse and dynamic landscape with a variety of landscape character types, which means it also has an array of Scenic Integrity Levels Although there are management opportunities to attain the five Scenic Integrity Objectives, only four were found in the inventory process Further analysis at the project level may allow flexibility within the Scenic Integrity Levels

Many potential human-made alterations, such as road development and closure, vegetation management, power line clearings, and recreation developments, may have the potential to alter the existing scenic landscape Although specific activities and projects will require detailed analysis of the impacts on the scenery, the Scenic Integrity Objectives will help guide management activities

Table 3-98 Scenic Integrity Levels

Forest Plan Alternative	Very High	High	Moderate	Low	Very Low	Rehabilitation
A	429,447 (22%)	1,078,287 (56%)	342,088 (18%)	6,938 (>1%)	0	61,516 (3%)
B	429,447 (22%)	539,447 (28%)	735,175 (38%)	150,955 (8%)	1,733 (>1%)	61,516 (3%)
D	429,447 (23%)	670,340 (35%)	624,567 (32%)	131,894 (7%)	510 (>1%)	61,516 (3%)
E	429,447 (22%)	1,078,285 (56%)	342,087 (18%)	6,938 (1%)	0 (>1%)	61,516 (3%)
F	429,447 (22%)	1,068,670 (56%)	342,085 (18%)	6,938 (1%)	0 (>1%)	61,516 (3%)
G	429,447 (22%)	1,078,284 (56%)	342,090 (18%)	6,939 (<1%)	0	61,516 (3%)
NA	429,446 (22%)	834,124 (56%)	499,081 (18%)	93,041 (5%)	1,064 (>1%)	61,516 3%

The above figures are based on a total forest acreage of 1,935,354 acres The figures add to 93% due to the absence of Scenic Classes for part of the Forest

On the RGNF about 61,516 acres or 3% of the forested land is altered-appearing to heavily-altered appearing These areas are located throughout the Forest. These viewsheds are considered for rehabilitation in all Alternatives Rehabilitation viewsheds are listed in order of priority for rehabilitation by the amount of Existing Scenic Integrity (ESI) in Condition 3 and the ESI in Condition 4 within the viewsheds

Table 3-99. Viewshed Priority

Viewshed	Acres of ESI 3	Acres of ESI 4	Total
Crystal Lakes	3,769	7,522	11,290
Pool Table	0	4,604	4,604
Love Lake	372	3,529	3,901
Rawley Area	1,023	0	1,023
Lake Fork	69	653	722
Groundhog Park	0	651	651
Workman Creek	0	625	625
Trujillo Meadows	577	0	577
Antelope	428	0	428
Johns Creek	393	0	393
Houghland Gulch	334	0	334
North Pass	327	0	327
Hillman Park	0	243	243
Luders Creek	215	0	215
Sargents Mesa	173	0	173
Bear Creek	34	97	131
Bonito	117	0	117
Shawcroft Cow Camp	6	0	6
Treasure Creek	0	83	83

There are additional existing Scenic Integrity Condition 3 and 4 areas throughout the forest that will also be identified for Rehabilitation They will be addressed on a case-by-case basis during project implementation

Rehabilitation is a short-term management Alternative used to restore landscapes containing undesirable visual impacts to a desired scenic quality. It may not always be possible to achieve the prescribed Scenic Integrity Objective with rehabilitation immediately, but will help to create a more visually desirable landscape in the interim Economic

feasibility will help determine the amount and location of rehabilitation during project level analysis Rehabilitation may include

* Vegetation management to eliminate unnatural edges, shapes, patterns, and colors.

* Alteration, concealment, or removal of structures containing unnatural forms, colors, or light reflections

* Alteration, concealment, or removal of slash construction debris

Alternatives A and F

Alternatives A and F have the least impacts on the scenery, because of their emphasis on naturally evolving ecosystems, Wilderness recommendations, Core Areas, and human use remaining subordinate to the landscape settings. Scenic Integrity Objectives will vary little, as commodity management is limited to resource extraction that benefits biodiversity The means to achieve this landscape character are natural occurrences, vegetation manipulation, and timber management The desired Scenic Integrity Objective for all Land Type Associations (LTAs-vegetation types) will be Very High (unaltered), High (imperceptibly altered), or Moderate (slightly altered)

Alternatives B, D, and NA

Alternatives B, D, and NA will result in modified landscapes in some areas, due to the Alternative themes, Management-Area Prescriptions, and the amount of timber harvest associated with each Scenic Integrity Objectives for these Alternatives are expected to retain a more managed appearance because of a greater emphasis on commodities Scenic Integrity Objectives for spruce/fir LTAs will be High (imperceptibly altered), Moderate (slightly altered), and Low (moderately to heavily altered)

Alternative E

Alternative E will result in natural-appearing landscapes over much of the Forest Resource development will occur primarily in areas of the Forest developed in the past, but activities will be designed so that they resemble disturbances that occur naturally Because of the recreation emphasis and the reduction of roads, scenic resources are expected to be improved or enhanced through interpretation Forest visitors can expect to see a Forest setting that will range from High (imperceptibly altered) to Very Low (heavily altered)

Alternative G

Alternative G will result in a natural-appearing landscape over much of the forest, because of use of the 3.3 Backcountry prescription Resource development will occur, but will comply with Scenic Integrity Objectives unless special documented circumstances warrant a change Resource development will occur primarily in areas of the Forest developed in the past, but activities will be designed so that they resemble disturbances that occur naturally Because of the reduction of roads, and emphasis on scenic management, Forest visitors can

expect to see a Forest setting that will range from High (imperceptibly altered) to Very Low (heavily altered)

Effects on Scenic Resources from Silvicultural Prescriptions/Timber Harvesting

Effects from timber management on scenic resources are expected to be more evident in Alternatives NA, B, and D In each of these Alternatives, all 5 11 and 5 13 Prescriptions will drop back one Scenic Integrity Objective, to allow for vegetation management

More timber harvest will cause the Scenic Integrity Objectives to fall toward the lower end of the spectrum In Alternative G, there are still some expected effects from timber harvesting, however, we expect them to be greatly diminished, because activities will comply with mapped Scenic Integrity Levels Mapped Scenic Integrity Levels will become Scenic Integrity Objectives in this Alternative

Effects on Scenic Resources from Firewood Gathering and Residual Coarse Woody Debris

In Alternatives A, F, and E, impacts on scenic resources from coarse woody, debris are expected to be low, because of a reduction in forest products. Coarse woody debris is typically gathered for firewood In Alternatives B, NA, D, and G, the impacts may be slightly higher because of the increase in forest products, but are still expected to remain fairly low

Effects on Scenic Resources from Fire, Insects, and Disease

In Alternatives A and F, the effects of natural occurrences, such as fire, insects, and disease, are compatible with naturally evolving and natural-appearing landscape character goals, unless human intervention creates unnatural scenic deviations In Alternatives NA, B, D, E, and G, the results of logging, road construction, or any human activity will be limited and should help the altered forest progress toward the naturally evolving landscape character In addition, all management activities resulting from natural occurrences will meet the Scenic Integrity Objectives for the area, unless special documented circumstances warrant a change

Effects on Scenic Resources from Mineral and Energy Exploration

Mineral and energy exploration will be minimal in Alternatives A and F, with only one well expected In the other Alternatives there is the potential for up to 23 oil and gas wells that may have some impacts on the scenery The nature of these developments makes it more difficult to meet the adopted scenic criteria Properly locating and screening the developments should result in Scenic Integrity Objective compliance, however Typically, the No Surface Occupancy Stipulation will help reduce conflicts with the scenic resources in areas where there is a high Scenic Integrity Objective

Effects on Scenic Resources from Range Management

Grazing is expected to occur in all Alternatives In Alternative F, there will be considerably fewer grazing effects on the scenic resource In the other Alternatives, there will be evidence of grazing Properly locating and screening range structures (existing and

proposed) can help reduce the impacts of range structures on the landscape Any range improvements are expected to meet the Scenic Integrity objectives for any areas on the Forest

Effects on Scenic Resources from Recreation

Recreation developments are associated with Scenic Integrity Objectives, in that the visual resources are considered in the placement and location of recreation sites In Alternatives A and F, recreation focuses on dispersed-recreation opportunities With no new developments and the improvement of existing recreation facilities, there should be no adverse effects to the scenic resources Scenic resources may be emphasized sometimes where there is an emphasis on interpretive programs

Effects on Scenic Resources from Watershed Restoration and Improvements

Watershed restoration and improvements have the potential to improve areas in need of scenic rehabilitation All Alternatives identified areas for watershed restoration, many of the same areas were also identified for scenic rehabilitation

Effects on Scenic Resources from Utility Corridors

Utility corridors have the potential to alter the characteristic landscape in all Alternatives Utility corridors and structures will be designed to fit within the existing characteristic landscape so that adverse impacts are limited

Effects on Scenic Resources from Road Closures

Road closure or obliteration can have both an adverse and positive effect on scenic resources Gates usually do not fit the characteristic landscape in terms of form, line, color, and texture Usually road obliteration affects scenic resources only during the initial obliteration There will be a need for some scenic rehabilitation during this process, and special attention will be given to how the road obliteration is accomplished and viewed from other roads, trails, and viewpoints Road obliteration can positively influence the Forest setting by reducing contrasts in form, line, color, and texture

Although every Alternative proposes road closures, Alternative F is expected to have the largest number of road closures and obliterations This is attributable to the closure of roads in areas of the Forest that will not be developed

Effects on Scenic Resources from Road Construction/Reconstruction

Road construction has the potential to alter scenic resources through the layout, placement, and visibility of the road Cut banks and road patterns on a landscape can alter the characteristic landscape Special care will be taken when designing new roads, however, to limit adverse impacts The Forest visitor can expect to see some new roads in Alternatives B, NA, and D, but these will be limited, since existing roads will be used as much as possible Road construction is limited in the other Alternatives

CUMULATIVE EFFECTS

Cumulative scenic effects are the sum of all scenic effects created by all landscape alterations that are visible at a given time Although an individual project may meet Scenic Integrity Objectives, the scenic effect created by several sequential projects may become unacceptable.

To help determine the cumulative scenic effect, both the Existing Scenic Condition and scenic effect of potential alterations must be considered. The latter is important in forest planning for developing Achievable Scenic Condition Alternatives and carrying out the Forest Plan Limits will be established on the amount of cumulative effect acceptable for maintaining the scenic quality of a landscape unit or viewshed

Cumulative scenic effects will consider the following:

* Natural or Natural-Appearing Landscape Character and Existing Scenic Conditions.

* Time (effect of soil-weathering, vegetation regeneration, and natural recovery in the landscape of scenic contrasts)

* Space (proximity of alterations).

* Type and intensity of projects

* Extent of projects (number, percentage of alteration)

* Visual Absorption Capability (the ability of the landscape to absorb impacts)

* Landscape Visibility

The duration of a scenic effect is the length of time that any landscape-altering project exceeds the definitions for achieving a Scenic Integrity Objective A grace period allows time for vegetative regrowth, natural healing, and softening of contrasts. For most activities involving vegetation manipulation, a grace period of one growing season following project completion is considered reasonable to meet the Scenic Integrity Objectives

INFRASTRUCTURE

ABSTRACT

Travel management decisions are tied to the Forest Recreation strategy These decisions are made in both the Forest Plan and at the project level They are displayed in the Plan, in Forest Travel Orders, and on the Forest Visitor's Map

Travel management direction on the Forest will continue to limit all vehicular motorized travel to designated roads and trails Alternative B allows limited cross-country all-terrain vehicle (ATV) travel and game retrieval Alternatives B, D, E, and NA allow varying amounts of cross-country snowmobile travel and a variety of ATV game-retrieval opportunities. Alternative G allows cross-country snowmobile travel in most non-Wilderness areas and cross-country ATV game retrieval in all non-Wilderness areas, except Wild Rivers and Backcountry and Research Natural Areas, and on trails designated as nonmotorized

Potential road closures and road construction should have minimal effects or impacts on access and travel management Both will be done to accomplish ecosystem management goals

The mileage of the Forest trail system will remain fairly constant, with changes to accommodate or address the needs of various user groups

The Forest will continue to manage its structural facilities in accordance with the *Facilities Master Plan*, which is updated every ten years, the most recent update was in 1992

All existing and proposed utility corridors on the Forest will remain as current inventories show and as outlined in the Western Utilities Group *Western Regional Corridor Study*, endorsed by the Forest Service in 1993

INTRODUCTION

Travel management provides for the movement of people and products to and through the Forest Travel is fundamental to what the Forest Service does Travel management on Forest roads and trails affects virtually every activity that takes place on the RGNF

Travel on Forest roads accommodates all aspects of outdoor recreation and access to private inholdings Travel is also essential for general management and monitoring of the Forest, including fighting wildfires, managing livestock and wildlife, removing of marketable natural resources such as logs and minerals, gathering fuelwood, and maintaining electronic sites and utility corridors A recent nationwide survey of National Forest visitors showed that a large percentage of them are most interested in experiencing their National Forests by viewing them from their car

Decisions about travel opportunities are an emotional issue for many Forest users Anytime travel is limited, some users will gain and others will lose For example, when an area or

road is closed to motorized travel to protect wildlife, this also restricts access for persons with disabilities, limits firewood gathering, and may reduce or eliminate some forms of recreation Conversely, such action would give hikers, horseback riders, and those seeking solitude a more peaceful, undisturbed experience

Modes of travel on the Forest range from commercial vehicles, such as large trucks, to personal autos and recreational vehicles like snowmobiles, all-terrain and off-highway vehicles, motorcycles, and mountain bikes Other travel modes include cross-country skiing, horseback riding, and hiking These various forms of travel occur on paved highways, gravel and dirt roads, unimproved roads, four-wheel-drive (4WD) roads, and trails designated for both motorized and nonmotorized use Cross-country travel is allowed only for snowmobiles, and game retrieval by ATVs. A dramatic increase in mountain-bike and ATV use has occurred over the past several years

AFFECTED ENVIRONMENT

Travel management direction on the RGNF limits motorized travel to designated roads and trails In 1991 a Forest Supervisor Order went into effect prohibiting open cross-country travel This was initiated to protect natural resources (mainly soil and water), resolve user conflicts, and reduce disturbance of wildlife Its intent also was to eliminate or decrease the increasing miles of new "volunteer two-track roads" created by travelers driving cross-country

During the fall hunting seasons, cross-country travel on ATVs is allowed outside Wilderness after noon, to retrieve game The time limit is an effort to maximize the quality of the hunt during the morning hours Unrestricted cross-country snowmobile travel is also generally allowed outside Wilderness, although use is normally confined to roads, trails, and certain high-country areas with low risk of avalanche The Forest Visitor's Map, updated in 1992, depicts the Forest's current travel management direction

Travel management was incorporated into the Alternatives to meet the theme of each Alternative Access and travel management contains three distinct parts (which are addressed below) off-road travel, travelways (roads and trails), and rights-of-ways

Off-Road Travel

As noted previously, the Forest prohibits off-road travel except for ATV game retrieval during the fall hunting seasons, and snowmobiles during the winter Both are allowed only outside Wilderness

Travelways (Roads and Trails)

The Forest road and trail system, collectively called "travelways," provides most of the travel opportunities for resource management and recreational activities Facilities associated with the travel system, such as parking areas, boat ramps, electronic sites, utility corridors, and related sites are not expected to change for any of the Alternatives Scoping revealed that these travel-related facilities are currently adequate and in good condition No new or potential needs were identified. Routine scheduled maintenance will continue

A Forest Development Road (FDR) or Forest Development Trail (FDT) is wholly or partly within or adjacent to National Forest System lands, is under the jurisdiction of the Forest Service, and is necessary for the protection, administration, and use of the National Forest System and the use and development of its resources "Volunteer two-track" roads are not FDRs unless it is determined that they have a continuing need and purpose The Forest Development Transportation System includes FDRs and FDTs, as well as roads and highways under the jurisdiction of counties, states, or other federal agencies, that access lands administered by the Forest Service

FOREST DEVELOPMENT ROADS

Our Geographic Information System (GIS) indicates there are some 2,960 miles of FDRs on the Forest These facilitate the management and enjoyment of the Forest, and are maintained and/or monitored for the safety of the user and the protection of ecosystems

There are five maintenance levels Level 1 roads are normally gated timber sale roads on which public motorized travel is not allowed Level 2 roads are open for travel by high-clearance vehicles Levels 3, 4, and 5 are improved native-soil, gravel, or paved roads suitable for passenger cars, and are under the jurisdiction of the *National Transportation Safety Act.*

In the Forest's current GIS transportation inventory, which is continuously being updated, there is 691 miles of Level 1 roads, 1104 miles of Level 2 roads, and 1170 miles of Level 3-5 roads Additionally, there is about 390 miles of road on private lands within or adjacent to the RGNF that are not considered part of the transportation network, but do give additional access to National Forest lands via rights-of-way and easements

The 2,960 miles mentioned above including some but not all of the "volunteer two-track" roads described earlier Many of these roads were created before the 1991 travel restrictions, but continued unauthorized cross-country travel creates additional volunteer roads yearly These are mostly concentrated in the lower elevations and less forested areas of the Forest with gentler slopes There are also currently uninventoried roads, associated with old timber sales, that were not included in the Forestwide inventory at the time of construction

We estimate between 300 and 500 miles of roads falls into these two categories During this planning period, these roads will be inventoried and analyzed using the GIS, the Global Positioning System (GPS), and a scheduled update of Forest aerial photos in 1997 As inventories are completed and updated, the analysis required by the *National Environmental Policy Act (NEPA)* will be conducted, either to designate these roads as FDRs or FDTs or plan them for obliteration

About 77% of the inventoried FDRs on the Forest are open to public motorized travel, and roughly 23% are travel-restricted Level 1 timber sale roads Many roads also have travel restrictions applied seasonally, to prevent or limit resource damage These percentages do not include the estimated 300-500 miles of volunteer two-track roads, a large percentage of which are currently open to motorized travel

Development and management of the Forest Transportation Network is subject to direction established in the Forest Plan Management-Area Prescriptions address design standards and type and season of use for travelways and associated facilities

FOREST DEVELOPMENT TRAILS

The Forest trail inventory was updated between the Draft and Final versions of the Forest Plan Revision According to the GIS, there is about 1,872 miles of trail on the Forest available for motorized or nonmotorized uses, or both, which serves a variety of users. As shown in Table 3-100, there is 1,500 miles of inventoried Forest Development Trails maintained for various types of trail recreation Included are portions of the Colorado Trail (80 5 miles), the Continental Divide National Scenic Trail (170 miles), and two National Recreation Trails, West Lost Creek (8 miles) and Lake Fork (7 miles). Sixty-five percent of the trails are open to all uses including motorized vehicles, 31% are in Wilderness and available for foot, horse, and wheelchair use only, and the remaining 4% outside Wilderness is limited to foot, horse, wheelchair, and mountain-bike use

Table 3-100. Forest Development Trails Miles

TRAIL TYPE	WILDERNESS	NON-WILDERNESS	TOTAL
Nonmotorized	468	60	528
Motorized	0	972	972
TOTALS	468	1,032	1,500

Current direction as displayed on the Forest Visitor's Map is that all trails outside Wilderness are open to motorized vehicles, except those specifically designated as nonmotorized The difference of 372 miles between existing trails and inventoried trails consists of stock trails, old trails that are no longer maintained, and old grown-over 4WD roads, both inside and outside Wilderness, tracked for purposes of resource analysis but not on the inventory These trails will be analyzed and considered for obliteration or rehabilitation as funds become available

The Forest has few barrier-free trails Emphasis will be placed on creating opportunities for various accessibility levels as trails are constructed and reconstructed

The miles of inventoried Forest Development Trail is expected to remain constant throughout the ten-year planning period. Short sections of new trail will be considered, to create loops, and some trail obliteration will take place on unused and resource-damaging trails Additionally, to accommodate the growing number of ATV users on the Forest and minimize user conflicts, certain trails will be reconstructed to ATV standards To reduce conflicts, additional trails may be designated nonmotorized

Time, increased use, and reduced funding have resulted in the gradual deterioration of the Forest's transportation network, specifically road surfacing If these trends continue as expected, protective measures will be needed Solutions may include directing funding to major roads and trails, allowing the lesser-used ones to be converted to lower maintenance levels, or reducing the overall miles, allowing funds to be focused on major routes.

Rights-Of-Way

The current rights-of-way situation on the Forest is not an issue that warrants extensive analysis The Ranger Districts will continue pursuing rights-of-way across private and other lands identified as necessary for management or use of the Forest

RESOURCE PROTECTION MEASURES

The location, design, operation, and maintenance of roads and trails are specified in Forestwide Standards and Guidelines, Forest Service Manual direction, and Forest Service Standard Specifications This direction assures their intended use will be accommodated over time

Maintenance, improvement, and reconstruction of Forest roads, and roads under other jurisdictions, will continue under all Alternatives Maintenance accomplishments on Forest roads are--and will continue to be--directly dependent on funding

ENVIRONMENTAL CONSEQUENCES

General travel management direction on the Forest will continue to limit all vehicular motorized travel to designated roads. All other forms of motorized travel will also generally be limited to designated roads and trails (as shown on the Forest Plan Map and outlined on the current Forest Visitor's Map), with certain exceptions allowing for cross-country ATV and snowmobile travel Specific travel management direction for each Alternative varies, and is explained further later in this section

Current (experienced) budget levels allow the maintenance of about 60% of the roads requiring maintenance annually A full budget would allow 100% maintenance of roads requiring annual maintenance This work is accomplished with the Forest road crew and equipment, and through maintenance agreements with the five counties with land on or adjacent to the Forest In all Alternatives, additional funding would be required to accomplish all (100%) of the necessary annual road maintenance Under projected budgets, maintenance is expected to continue at current levels

Reconstruction of the Forest's road network that is maintained for passenger-car use, also referred to as arterial and collector roads, is scheduled to take place at the rate of 30 miles per year This work is needed to ensure user safety, protect the investment (of constructing the road), and maximize the life of the roads Reconstruction consists of reshaping the road, and placing or replacing road surfacing (usually gravel) At this rate, the Forest passenger-car road network would be reconstructed once every 20 years This reconstruction schedule requires more funding, however, than we have received annually in the last decade

The Forest has some 300 miles of inventoried FDRs and 186 miles of uninventoried volunteer two-track roads that is causing major resource damage or wildlife disturbance, or is not necessary for the management of the Forest These roads will be considered for closure to motorized travel in all Alternatives except Alternative G The criteria for identifying these roads for motorized-travel closure were based on needs for natural-resource protection or

rehabilitation, wildlife disturbance, and/or duplicate access to specific areas Approximately 303 miles (of the 486) was identified for closure to motorized travel due to resource damage, and 183 miles for administrative needs

Alternative F identifies an additional 354 miles (above the 486) for closure to motorized travel. In addition to the 486 miles cited above, roads in Core Areas or Core Restoration Areas, designated wildlife corridors, and limited use areas are also slated for closure to motorized travel. These closures to motorized travel will focus on eliminating roads in areas considered vital to conservation biology, and reducing road densities in other areas

Alternative G identifies about 100 miles of roads that will be analyzed for potential closure to motorized travel. These are the priority roads identified in the DEIS by the Ranger Districts as causing the most severe resource damage and/or wildlife disturbance As projects and NEPA analyses are conducted, additional roads may be identified for closure to motorized travel during the ten-year planning period This would be done in accordance with the requirements of NEPA, which would allow for public review and comment at that time

(The roads identified for analysis are listed in Appendix O, with a brief description and mileage shown For more detailed information on a particular road or road segment listed, contact the appropriate Ranger District)

The Districts will evaluate each potential road or road segment identified for closure to motorized travel, on a project-by-project basis. Final decisions whether to follow through with the closures to motorized travel on each road or road segment, and the method of closing them, will be made in accordance with required NEPA analysis Project priority will be given to those roads causing severe resource damage

Each Alternative will pursue restricting motorized on 486 miles of road, except in Alternatives F and G, as outlined above In lieu of the NEPA process, which may or may not result in a decision to close these roads to motorized travel, the actual amount will vary -- between 0 and about 486 miles in Alternatives A, B, D, E, and NA, 0 and about 100 miles in Alternative G; and 0 and roughly 840 miles in Alternative F

Under current (experienced) budget levels, the identified mileages of closure to motorized travel could be accomplished in Alternatives A, E, and G in Decade 1 Additional funding or time is needed to achieve the closure totals in the other Alternatives

The method of closing these roads to motorized travel will vary, including completely obliterating the road, obliterating the first one-quarter mile of road, removing culverts and re-establishing natural drainage patterns, mounding and"tank- trapping" the entrance to the road, recontouring and fencing the road entrance, signing, gating, ripping, and seeding all or portions of the road, and/or converting the roadway to a motorized or nonmotorized trail Costs will vary with the method or methods selected The 1996 USDA Forest Service publication *A Guide for Road Closure and Obliteration in the Forest Service* will be used as a guideline for this analysis and work

The remaining 300-500 miles of uninventoried volunteer two-track roads not currently identified for closure, and a currently uninventoried amount of low-standard roads associated with old timber sales, will be inventoried and analyzed during the next ten years

They will be considered for possible addition as FDRs, closure to motorized travel, or total obliteration. As with those roads already identified, the required NEPA analysis will be conducted prior to any decisions being made on these roads. Motorized-travel closure methods will be the same as described above, and actual work will be dictated by available funding at the time NEPA decisions are made

New roads will be built under all Alternatives, for timber harvest, anticipated oil and gas exploration and development, and/or access to private land within the Forest boundary (to which the Forest must provide reasonable access, by law) The amount of private access road constructed is impossible to predict, as this is dictated by land sales and development within and adjacent to the Forest It is expected to be minimal, and normally will occur in already developed areas No other road construction is expected during the ten-year planning period

Table 3-91 shows the expected new road construction and reconstruction that will take place for timber harvest, under experienced- and full-budget levels , for decades one through five, according to FORPLAN modeling Actual harvest and construction/reconstruction will depend on current timber prices, NEPA costs, and budgets This harvesting and road construction/reconstruction are planned mostly for areas already harvested or planned for harvest on the Forest, which are referred to as "undeveloped" areas

Based on FORPLAN modeling, some harvest and road construction may take place in certain roadless areas on the Forest The harvesting will also be based on timber prices, NEPA costs, and budgets The "Unroaded Areas" section of FEIS Chapter 3 further outlines projected harvest and road construction activity in unroaded areas Actual construction and reconstruction may vary slightly, based on on-the-ground, project-by-project analysis, and road design and layout In all cases, new- and reconstructed-road designs and construction techniques will follow Forest Plan and other up-to-date resource protection measures

Expected road construction for oil and gas exploration and development during decade one is five miles for Alternatives A and F, and 18 miles for the other Alternatives These mileages remain the same under full or experienced budgets, and we expect them to remain constant through decade five (These mileages should be added to the mileages shown in Table 3-101 for the total projected decade totals)

Table 3-101. Timber Harvest Road Construction/Reconstruction for Experienced and Full Budget Levels per Decade

ALTERNATIVE		DECADE Experienced / Full Budget Level				
		1	2	3	4	5
A [1/]	Construction	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
	Reconstruction	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
B	Construction	3/64	7/22	25/111	19/66	15/22
	Reconstruction	23/54	24/51	19/30	21/45	24/55
D	Construction	0/33	3/4	16/72	9/37	2/12
	Reconstruction	17/39	17/45	14/32	16/43	18/50
E	Construction	0/0	0/0	0/0	0/0	0/0
	Reconstruction	13/24	15/29	15/33	16/33	16/34
F	Construction	0/0	0/10	2/33	1/4	3/2
	Reconstruction	6/17	6/18	6/13	6/19	5/21
G	Construction	0/13	6/7	8/49	10/28	9/2
	Reconstruction	39/38	18/41	17/29	17/40	17/47
NA	Construction	1/49	5/18	9/86	10/45	12/18
	Reconstruction	15/38	15/37	13/21	14/32	13/40

1/ Alternative A has no Allowable Sale Quantity (ASQ), so no construction or reconstruction is planned However, construction or reconstruction should be expected for harvest activities related to other resource objectives

Table 3-94, in the Developed and Dispersed Recreation section shows the proportion of the Forest allotted to each Recreation Opportunity Spectrum (ROS) class The ROS class indirectly affects travel opportunities on the Forest, in that generally areas are either open or closed to motorized travel Vehicular motorized travel on Forest roads is usually not affected by ROS because the areas designated as nonmotorized areas in the Alternatives are the inventoried unroaded areas of the Forest, which typically by definition do not contain any roads

We expect only minimal changes in the Forest Development Trail System Travel on Forest trails depends on the Management-Area Prescriptions and travel management direction in the Alternatives Trail obliteration and/or relocation is expected to average six miles per year. Trail construction will average three miles per year It will consist mainly of connecting existing trails, to create loop opportunities and interpretive trails in Special Interest Areas

Table 3-102 shows the annual miles of trail construction, trail maintenance, trail reconstruction, and trail obliteration, by alternative Trail reconstruction includes reconstructing trails for safe use by ATVs All maintenance and reconstruction will attempt to offer varying degrees of accessibility levels, where terrain and surfacing allow, for persons with disabilities

Trails found in the following Prescriptions are limited to nonmotorized use in Alternatives A, B, D, E, and F Wilderness and Areas recommended for Wilderness, Backcountry Nonmotorized areas, Research Natural Areas, Core Areas in Alternative F, Wild Rivers,

Special Interest Areas, and trails designated for foot and horse use only, on the Forest Visitor's Map

In the No Action Alternative, motorized travel would continue to be allowed on designated trails in Backcountry Nonmotorized areas

Table 3-102 Annual Miles of Trail Activity

ACTIVITY	ALTERNATIVES						
	A	B	D	E	F	G	NA
Construction	3	3	3	3	3	3	3
Reconstruction	15	25	20	20	15	20	15
Reconstruction to ATV Standards	4	12	8	8	2	8	10
Maintenance	200	300	240	240	200	240	200
Obliteration	6	6	6	6	6	6	6

In Alternative G, motorized travel by ATV and motorcycle would be allowed on all trails outside Wilderness, Research Natural Areas, Wild Rivers, and Backcountry, except trails designated for nonmotorized travel only, on the Forest Plan Map and Forest Visitors Map

In Backcountry areas in Alternative G, certain trails will be managed for motorized travel, and others for nonmotorized The designation for each is and/or will be shown on the *Forest Plan Map, the Forest Visitors Map, and at the appropriate trailheads or trail* entrances (The decision criteria for these trails are displayed in the Unroaded Trail Decision chart in the Recreation section of Chapter 3 of the FEIS)

Table 3-102 and 3-103 show the breakdown of trail mileages for Alternative G

Table 3-102 Trail Miles by Category, Alternative G

Trail Miles by Category, Alternative G			
Category	Motorized	Nonmotorized	Total
Wilderness	0	468 31%	468 31%
Backcountry	153 10%	146 10%	299 20%
All Other Areas	226 15%	505 34%	732 49%
Totals	380 25%	1119 75%	1499 100%

Table 3-103 Travel Management Opportunities, Alternative G

Travel Management Opportunities					
Category	Mileage	% of total	Jeep	ATV/ Motorcycle	Hiking
Primary Roads	107	2%	X	X	
Improved Roads	1,054	23%	x		
Unimproved Roads	1,795	40%	x	x	
Motorized Trails	380	9%		x	x
Nonmotorized Trails-Wilderness	470	11%			x
Nonmotorized Trails-outside Wilderness	650	15%			x
Totals	4,456		2,849	2,175	1,500

Snowmobile travel will generally be managed as it is under the existing Forest Plan, which concentrates snowmobiles on certain roads, trails, and areas with suitable terrain and minimal avalanche hazard

Motorized travel by ATVs, motorcycles, and snowmobiles is authorized in all other management areas according to travel management guidelines, as shown in Table 3-104. In all Alternatives, certain passenger-car roads or road sections will be designated and signed as open to ATV travel, to accommodate the connection of ATV trails and allow for uninterrupted north/south and east/west travel by the motorized user groups

As Table 3-104 shows, motorized travel by ATV, including game retrieval, is generally limited to designated roads and trails in most Alternatives In Alternative B, cross-country ATV travel, including game retrieval, is allowed as shown This cross-country travel is proposed in order to accommodate a rapidly growing group of recreationists This Alternative also incorporates extensive education, to ensure land and resource damage would be minimized

Table 3-104 also shows that in Alternatives A and F, snowmobile travel is limited to roads and trails, where motorized travel is allowed Cross-country snowmobile travel will be managed in the other Alternatives as indicated in the table.

In all Alternatives, motorcycles are allowed only on roads and trails designated for motorized travel

Alternatives A, D, E, and F allow game retrieval by ATVs only on roads and trails where motorized travel is allowed Cross-country game retrieval by ATVs after noon is allowed outside nonmotorized areas in Alternatives B and NA, as shown in Table 3-104

In Alternative G, cross-country ATV game retrieval will be allowed after noon during the fall big-game hunting seasons in all areas (and on all trails of the Forest) except Wilderness, Wild Rivers, Research Natural Areas, Backcountry, and trails designated for nonmotorized use only, on the Forest Plan Map and on the Forest Visitor's Map In Backcountry areas,

cross-country ATV game retrieval is prohibited, but will be allowed on those trails being managed for motorized use that were described earlier

Table 3-104 ATV and Snowmobile Travel Management by Alternative

Prescription	ALT NA			ALT A			ALT B			ALT D			ALT E			ALT F			ALT G		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Wilderness																					
Rec for Wilderness																					
Backcountry Nonmot	O	RT	O																		
BC Nonmotorized Limit WinterMot										O											
Core Areas																					
Wild Rivers																					
Special Interest Areas				RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	O
Research Nat Areas																					
Limited Use Areas																RT	RT	RT			
Backcountry																			O	DT	DT
Backcountry Motor	O	RT	O	RT	RT	RT	RT	RT	O	O	RT	RT	O	RT	O	RT	RT	RT			
Scenic Rivers				RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	O
Wildlife Corridors																RT	RT	RT			
Aspen	O	RT	O																		
Scenic Byways/RRs				RT	RT	RT	O	O	O	RT	RT	RT	O	RT	RT	RT	RT	RT	O	RT	O
Dispersed Recreation	O	RT	O	RT	RT	RT	RT	RT	O	RT	RT	RT	O	RT	RT	RT	RT	RT	O	RT	O
Recreation Rivers	O	RT	O	RT	RT	RT	O	O	O	O	RT	RT	O	RT	RT	RT	RT	RT	O	RT	O
Gen Forest & Range				RT	RT	RT	O	O	O	O	RT	RT	O	RT	RT	RT	RT	RT	O	RT	O
Forest Products	O	RT	O				O	O	O	O	RT	RT	O	RT	RT				O	RT	O
Water Yield Emphasis	O	RT	O																		
Deer/Elk Winter Range	RT	RT	O	RT	RT	RT	RT	O	O	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	O
Bighorn Sheep Hab	RT	RT	O	RT	RT	RT	RT	RT	O	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	O
Rangelands	O	RT	O	RT	RT	RT	O	O	O	O	RT	RT	O	RT	RT				O	RT	O
Ski Resorts		RT	O								RT	RT		RT	RT				O	DT	DT

Does Not Apply, *This prescription is not used in this Alternative*

Not Allowed in this Prescription

1 = *Snowmobiles*

2 = ATVs & Motorcycles

3= ATV Game Retrieval

DT Travel Restricted to Designated Trails
RT Travel Restricted to Designated Roads and Trails
O Travel Allowed Off Designated Roads and Trails

Mountain biking would continue to be allowed on all roads and trails outside Wilderness The exception is Alternative F, which also limits mountain bikes to designated trails in Core Areas and Core Restoration Areas

Four-wheel-drive (4WD) and off-highway-vehicle (OHV) travel would continue to be allowed on the 1,104 miles of inventoried high-clearance roads, and most of the uninventoried miles of volunteer two-track roads, in all Alternatives No OHV cross-country travel is authorized in any Alternative.

The mix of motorized versus nonmotorized trails differs by Alternative, based on each Alternative Theme and Management-Area Prescription allocations. Alternatives A, E, F, and G have the greatest amount of nonmotorized trails, while Alternative B and NA have the most motorized trails Alternative D has similar amounts of motorized and nonmotorized trails

When looking at motorized and nonmotorized recreation from an overall "opportunities" standpoint, Alternative G offers a fairly even mix of challenges for either group When combining the miles of (1) designated motorized trails, (2) unimproved roads suitable for high-clearance vehicles, and (3) closed timber sale roads, the miles of motorized "opportunities" available to the motorized enthusiast total 1,484 miles, or 45% of the combined total The miles of nonmotorized "opportunities" available to the nonmotorized enthusiast amount to 1,810 miles, or 55% These figures do not take into account the miles of volunteer two-track that, if allowed to become or stay motorized, would nearly balance the ratio.

Direct and Indirect Effects

The direct effects of the Alternatives on travel opportunities depend on the Forest user's preferred or required method of travel. For people who favor nonmotorized recreation, Alternatives A and F might be preferable, because they are more restrictive of motorized travel on the Forest

For those who prefer or are limited to motorized recreation, Alternatives B and NA provide for motorized-travel opportunities on a majority of the Forest These Alternatives also place fewer restrictions on other Forest uses requiring motorized vehicles

Alternatives D, E, and G have a fairly even mix of motorized versus nonmotorized opportunities, when considering the combined mileages of roads and trails.

(When considering these travel opportunities, keep in mind that roughly 25% of the Forest is Wilderness, which has a direct effect on travel management)

Roads --in particular new construction and reconstruction---have a multitude of direct, indirect, and cumulative effects on nearly all environmental components Indirectly, the kinds of access Forest users have influences the health of tree stands, commodity outputs, firewood gathering, hunting, wildlife habitat, heritage resources, soil, water, and other resources. (These effects are discussed in greater detail under the relevant resource headings in this chapter)

The Alternatives and their associated land allocations have varying effects on the Forest transportation network While road and trail construction and reconstruction can have important cumulative effects on many resources, including soil and water, the reverse is not true *no significant adverse cumulative effects from other resources were found to impact* roads and trails

Over time, dispersed recreation is expected to increase in all Alternatives Where demand for a certain kind of recreation opportunity stays constant or increases, and the area where that opportunity is allowed stays constant or decreases, overcrowding (increased contacts between user groups) can be expected This may result in a reduction in the quality of the recreation experience Although unquantifiable, these effects would occur to varying degrees under all Alternatives

As dispersed recreation use increases, the potential for user conflicts and resource damage will also increase This will be particularly evident in the Forest/urban interface, as development of private lands within or adjacent to the Forest boundary continues For example, private landowners may increasingly request travel opportunities on adjacent Forest lands be controlled, to reduce noise and dust and to maintain their privacy Motorized-vehicle use, and its associated effects on other resources will probably increase Forestwide Under any Alternative, additional travel-management regulations or restrictions, and changes in those outlined in this section, may be imposed

Land allocations that attract various users are expected to result in an increased use of Forest roads and trails Vehicles, pack animals, ATVs, motorcycles, bicycles, and people cause wear on these facilities, requiring recurring maintenance to protect the investment When excessive traffic wear resulting from deferred maintenance and natural causes has occurred, reconstruction may be required to provide a suitable facility

The potential for conflicts and resource damage is not limited just to motorized travel Conflicts often arise between hikers, mountain bikers, and horseback riders Their trail use may cause soil- erosion and/or water-quality problems, and additional restrictions may be needed

Any additional restrictions will occur at the project level Under all Alternatives, there will be more emphasis on education and information, to minimize user conflicts and resource damage It is the desire of the RGNF that all users will learn to respect and tolerate one another, while keeping resource protection in mind

Facilities

The Forest's structural facilities will continue to be managed and maintained in accordance with the Facilities master Plan which was updated in 1992 and will be revised again in 2002 There are no major changes or additions planned in any Alternative during this planning period

Utility Corridors

The 1992 *Wester Regional Corridor Study,* prepared for the Western Utility Group by Michael Clayton and Associates, describes the existing and proposed major utility corridors on the Forest This study was endorsed in 1993 by the Chief of the Forest Service, who

advised the affected Regional Foresters, "The *Western Regional Corridor Study* is not a decision document, rather it is a reference document which both agencies (Forest Service and Bureau of Land Management) need to consider when amending or revising land and resource management plans and when considering all forms of site-specific projects on lands administered by the two agencies"

The utility corridors on the RGNF are generally described as follows

* One corridor enters the Forest near Elwood Pass, proceeds east past Summitville and Grayback Mountain, and follows Pinos Creek Road to Del Norte.

* A second corridor generally follows Highway 149 from South Fork to Creede, and continues over Spring Creek Pass to Lake City

* A third corridor follows the Middle Creek drainage on the Saguache District north to the Gunnison National Forest.

The Forest will comply with this direction, and intends to honor these existing and proposed utility corridors in all Alternatives They are not identified on the Forest Plan maps, in an effort to minimize confusion, but will be managed and protected for their intended use

SOCIAL, FINANCIAL, AND ECONOMIC ELEMENT

ABSTRACT

The counties of the San Luis Valley (SLV) are uniformly characterized by low population density, slow population growth, high unemployment, and low annual per capita income Subsistence use of the Forest plays a important role in the lives of the Valley's population

The SLV can be described as a billion dollar economy, with a strong dependence on the agricultural and services sectors Retail trade is also a strong portion of the economy While manufacturing exists in the valley, it represents a very low percentage of employment or income, especially when compared to state or national figures

Each Alternative produces a different mix of outputs and benefits for the area None of the Alternatives generate enough revenue to cover all the financial costs Each Alternative does, however, generate several monetary and nonmonetary benefits to the region

The Alternatives contribute funds to the Valley's county governments and school districts through the 25-Percent Fund and the Payment In Lieu of Taxes (PILT) program These contributions are very significant, particularly the 25-Percent payments to Hinsdale, Mineral, Saguache and San Juan counties Outputs from various Forest programs, as well as Forest Service expenditures, currently contribute about 6% of the Valley's employment, with a potential increase to 8% if some of the Alternatives are fully funded

Overall, the costs of each Alternative are greater than the revenues, and when examining individual programs, only the timber and oil and gas programs generate greater revenues than costs

Whether using Net Present Value (NPV or PNV), Revenue/Cost or Benefit/Cost indices, no one Alternative is clearly ranked the best, given either funding level While Alternative B has the best financial NPV for full and experienced budget levels, Alternative G has the best Economic NPV Likewise, Alternative G has the best benefit/cost index for full budget levels, while Alternative B has the best benefit/cost index for experienced budget levels

INTRODUCTION

Legal Framework

Impact analyses and economic efficiency in Forest Plan revisions is based primarily on three laws and associated regulations. the National Environmental Policy Act (NEPA), the National Forest Management Act (NFMA), and the 1990 Farm Bill--Sections 2371-2374 (Farm Bill)

NEPA requires the integrated use of the natural and the social sciences in all planning and decision making that affect the human environment , such as impacts on local employment The human environment includes the natural and physical environment and the relationship of people to that environment (40CFR 1508 14) NFMA requires comprehensive consideration of economic benefits and costs, specifically identifying cost-efficient Alternatives, and impacts on present net value The Farm Bill focuses on the national concern for the economic well-being of rural communities, especially as they may be dependent on goods and services derived from National Forests

Purpose

Social and economic analysis is conducted by the Forest Service to discover what effect the agency has on local communities and the people using the natural resources People using the forest are part of the ecosystem and are considered in resource decisions made in the Revised Forest Plan The social and economic effects of each Alternative are considered along with other factors when evaluating the proposed Alternatives

A social impact is a change in social and cultural conditions which directly or indirectly results from a Forest Service action To determine those changes, the Forest has looked at the effects of proposed actions on the entire San Luis Valley One objective of social impact analysis is to identify potential public needs and concerns that resource managers consider in their decision making Another objective is to inform agency decision makers and the public of potential social effects that may occur from our actions

An economic impact occurs when actions taken by the Forest Service directly or indirectly change the employment base, the type of goods and services offered, or the population A change in the employment base can occur by either creating or eliminating jobs or shifting jobs between major sectors in an area

AFFECTED ENVIRONMENT

Zone of Influence

The RGNF affects or encompasses a ten-county area (Figure 3-99) While the geography of the Valley includes several counties of northern New Mexico, the economy of the New Mexico portion of the Valley is very distinct Actions on the RGNF have very little economic influence in New Mexico

The management of the RGNF's resources primarily affects the economic and social activities of the six-county San Luis Valley The SLV economic area is comprised of Alamosa, Conejos, Costilla, Mineral, Rio Grande, and Saguache Counties

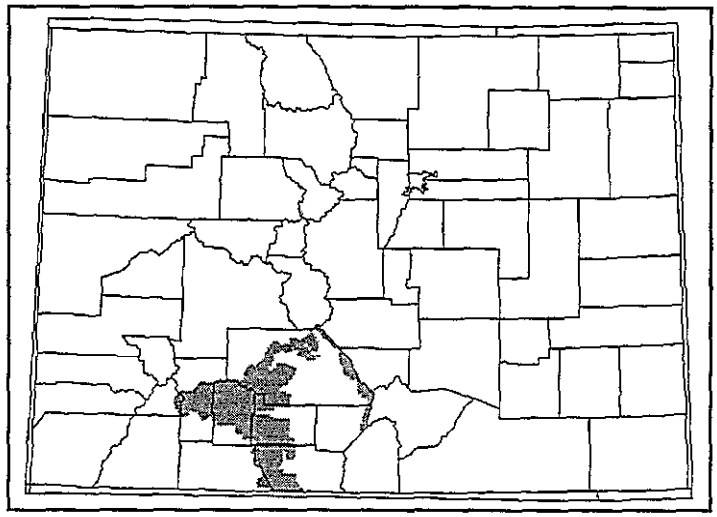


Figure 3-99 Colorado Counties and the RGNF

The economic effect on the remaining four counties of Custer, Hinsdale, San Juan, and Archuleta Counties is very small This is because of low acreage and/or very little, or no, permanent populations within RGNF boundaries

Population

Using U.S Census data from the past five decades, including the 1990 Census data, Figure 3-100 and Table 3-105 show population trends within each county in the SLV The figure shows that the Valley's population steadily decreased through the 1950s and 1960s to a low point reflected in the 1970 Census Since the 1970s the Valley's population has increased Approximately a 6-percent increase occurred in the last decade, yet the current population level is still more than 10% below the 1950 level In contrast, the state's population has increased almost 250% during the past four decades, with a 13 2% increase in the past decade

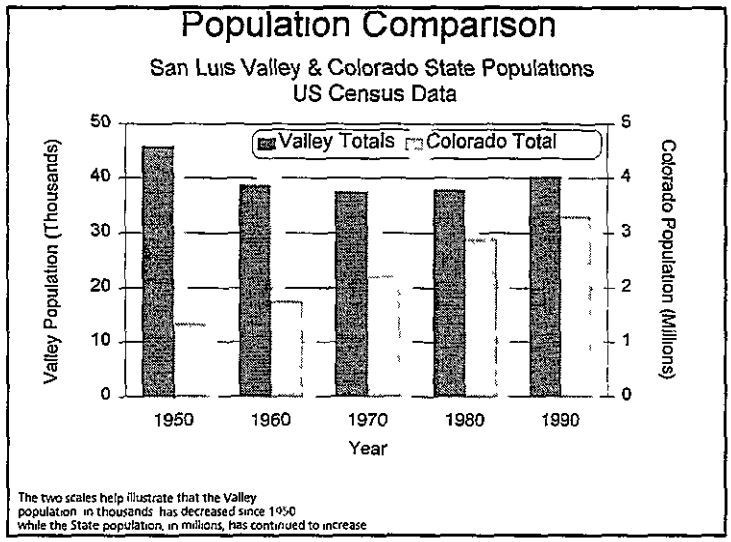


Figure 3-100 Population Comparison

From 1950 to 1980, the largest decreases in population occurred in Conejos, Costilla, Mineral, Rio Grande, and Saguache Counties, with a combined decrease of 8,842 persons This decrease is about 25% of the 1950 population From 1980 to 1990, the SLV population increased with most counties showing an increase The exceptions are Conejos County with a 341-person decline and Mineral County that had a 246-person decline due to the closure of the Homestake Silver Mine

Table 3-105. San Luis Valley Population Information

San Luis Valley Population Information, 1950 - 1990 Source US Census Data					
County	**1950**	**1960**	**1970**	**1980**	**1990**
Alamosa	10,531	10,000	11,422	11,799	13,617
Conejos	10,171	8,428	7,846	7,794	7,453
Costilla	6,067	4,219	3,091	3,071	3,190
Mineral	698	424	786	804	558
Rio Grande	12,832	11,160	10,494	10,511	10,770
Saguache	5,664	4,473	3,827	3,935	4,619
Valley Totals	**45,963**	**38,704**	**37,466**	**37,914**	**40,207**
Colorado Totals	**1,325,089**	**1,753,947**	**2,207,259**	**2,889,735**	**3,294,394**

Saguache and Alamosa Counties have seen a population increase of 15 to 17% during the last decade These increases have been attributed to undercounting of populations in 1980, movement of households within the SLV, and immigration due to economic growth and opportunity.

The most recent population projections from the Colorado State demographer (Colorado Division of Local Governments, 1996) indicate that the State's population, which has increased by over 90,00 persons/year in the past five years, will continue to increase, but at a slower rate over the next five years. The population, which was estimated at 3,747,000 for July 1, 1995, is expected to increase by 73,000 or grow at an annual average rate of 1 9% to reach 4,113,000 by July 1, 2000 It is expected to continue to grow at average annual rates starting at 1 4% and declining to 1.0 % over the ensuing twenty year period until reaching over 5,200,000 by 2020 This growth increase will probably occur along the Front Range, the I-70 corridor, the Gunnison/Delta corridor, and the Four-corners region This growth will mostly come from in-migration of people from the South and Southwest regions of the nation

Growth projections for the SLV indicate a slower rate of growth Projections indicate a 7-1 4% increase per year for the next two decades(Table 3-106) This will bring the population of the SLV up to its 1950 level by the year 2000 The Valley's growth will also be caused from in-migration of people from the South and Southwest regions of the nation

These people may bring with them different values, expectations, and needs than the current populace.

Table 3-106. San Luis Valley Population Projections

San Luis Valley Population Projections Source Colorado Division of Local Governments, 1996					
County	1990	1995	2000	2010	2020
Alamosa	13,617	14,845	16,335	18,819	20,941
Conejos	7,453	7,701	7,906	8,106	8,223
Costilla	3,190	3,385	3,596	3,913	4,180
Mineral	558	627	686	784	878
Rio Grande	10,779	11,685	12,547	13,859	14,969
Saguache	4,619	5,525	5,896	6,442	6,905
Valley Totals	**40,207**	**43,767**	**46,966**	**51,922**	**56,097**
Colorado Total	3,294,394	3,746,235	4,112,608	4,695,283	5,224,025

Racial/National Origin Composition

Using 1990 U S Census information, Figure 3-101 illustrates the racial composition of the six-county region of the San Luis Valley.

According to the U.S. Census, persons of Hispanic origin may be of any race Origin is viewed as the ancestry, nationality group, lineage, or country of birth of a person or their relatives before their arrival in the United States

In the 1990 Census, people of Hispanic origin included Mexicans, Puerto Ricans, South or Central Americans, and Spaniards The Census also included Native Indians from those same lands

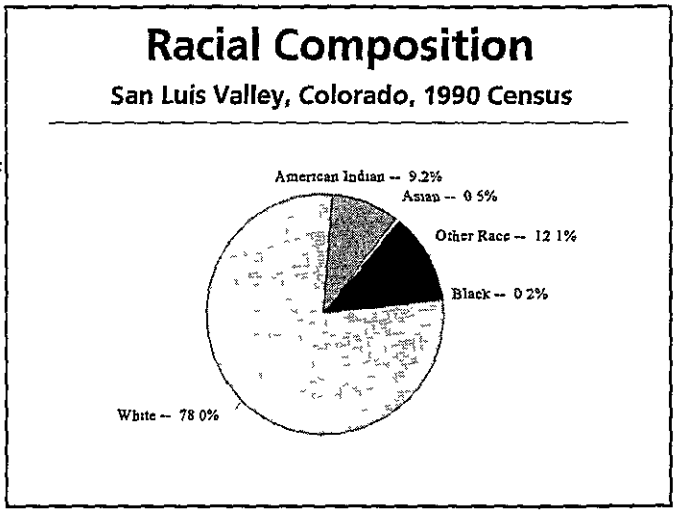


Figure 3-101 Racial Composition

For the six-county region of the San Luis Valley, the U.S Census reported about 45% of the residents were of Hispanic origin Further review of the Census data reveals that the percent of people of Hispanic origin varies greatly, from Mineral County's 1% to Costilla County's 77%

Culture

The Forest Service, as an agency, has chosen to use a definition of ecosystem management that includes humans We feel people are part of the ecosystem because culturally, socially, and individually humans generate the demands on, the values and perceptions of, and the interactions people have with ecosystems.

In general the SLV and communities in the surrounding mountains have retained a significant portion of their past heritage. The Range of Natural Variability Assessment (Appendix A of the EIS) offers a greater and more detailed historical perspective of the area's past heritage.

Settlement began prehistorically as early as 10,000 B C , and a significant American Indian tribal presence, by the Utes, continued until around 1881. The American Indian population in the valley is low in numbers and dispersed, consisting of individual family groups The nearest American Indian population centers are located about 100 miles away on the lands of the Southern Ute, the Ute Mountain Ute, the Jicarilla Apache, and the Taos Pueblo Both local American Indians and those from more distant population centers view portions of the SLV and the surrounding mountains as areas of cultural importance Ceremonial sites and traditional gathering areas for certain plants and other materials exist on the Forest

By the 1850s permanent agricultural settlement, generally by Hispanics from New Mexico, began to increase For generations rural residents of Hispanic descent have relied on woodland and grassland resources to satisfy subsistence needs such as food, fuel, and building materials This system of resource use is linked to deeply rooted traditional value systems Many rural Hispanics presently choose to live in somewhat traditional ways, including farming family plots, hunting and gathering to supplement the diet, gathering wood for heating and cooking, grazing small herds of domestic animals, and obtaining materials from nearby public lands for producing traditional cultural objects

By the 1870s there was a significant increase of foothill and high-country grazing by sheep and cattle Today, many of these ranches are managed by descendants of original landowners As permittees, a number of these families have been grazing sheep and cattle on the same areas of the Forest since it was formed in 1908 Activities such as procuring posts and poles for fences and/or corrals are often done on the Forest

More extensive farming activity began in the 1880s, especially near Monte Vista, where large irrigation canals were built These larger farms were developed mostly by Anglos during this period of settlement Many descendants of the original families are still farming the same land These, and other farmers who settled later, make up a cultural group which dominates many rural areas of the Valley This cultural group is generally family oriented and their use of the Forest is generally recreational based A number of these families maintain reservoirs, mostly small in size, on the Forest, some dating back to 1908, when the Forest was established

Subsistence use of the Forest plays a serious role in the lives of all cultures present Hunting, fishing, plant gathering, trapping, and firewood gathering are important uses of the Forest

Employment

Agriculture, services (health, automotive, motels, etc) and retail trade are the primary private employers of the San Luis Valley From information provided by the Colorado Department of Labor and Employment, Table 3-107 shows the number of covered employees (those with Workmans Compensation Insurance) in each major economic sector during 1980, 1985, 1990 and 1995. This information, while it does not include self-employed individuals or most farm labor, shows employment trends in the six-county region

This table shows that the manufacturing sector is seriously lower than the state average of 10% and the national average of just over 15%. This is an important relationship because the manufacturing sector tends to cause the greatest ripple effect in the economy, i e for every manufacturing job created, anywhere from two to four jobs are created somewhere else in the economy The Valley would benefit from any sort of manufacturing, including processing of agricultural products or secondary wood manufacturing

Also shown in Table 3-107 is the high amount of government employees The government sector includes federal, state, county and local government employees, including school districts Persons involved in education account for a very large portion of this group. The high number of government employees illustrates the different requirements of providing basic services (health, education, law enforcement, roads, etc) to a smaller and very dispersed populace

Table 3-107 Covered Employment Levels.

Average Annual Covered Employment Levels during 1980, 1985, 1990 1995 in the San Luis Valley
Source Colorado Department of Labor and Employment

Category	1980	1985	1990	1995	SLV %
Total Covered Employment	13,177	11,259	12,388	14,644	100%
Agriculture, Forestry & Fish	1,009	1,455	1,704	2,069	14 1%
Mining	62	14	241	297	2 0%
Construction	389	710	349	512	3 5%
Manufacturing	697	408	408	490	3 3%
Transportation & Utilities	431	339	336	542	3 7%
Wholesale Trade	467	727	777	876	6 0%
Retail Trade	1,654	1,775	2,150	2,623	17 9%
Finance, Insurance & Real Estate	534	469	425	479	3 3%
Services	4,830	2,365	2,341	2,716	18 5%
Government	3,104	2,997	3,657	4,040	27 6%

Unemployment

Table 3-108 contains unemployment information for the six-county area of the San Luis Valley The table contains ten years of data, which was provided by the Colorado Department of Labor and Employment

The unemployment rates of some Valley counties are some of the highest in Colorado, Conejos, Costilla, and Saguache counties are usually among the top five in the state These high unemployment rates combined with low income levels, which are discussed in the following section, present a strong case for needed economic development in all economic sectors

Table 3-108 Average Annual Unemployment

Average Annual Unemployment, 1986 - 1995 (By Percent)
Source Colorado Department of Labor and Employment

County	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Alamosa	10 0	9 3	8 1	7 7	5 9	5 9	7 2	6 8	5 5	7 2
Conejos	20 7	17 9	14 8	15 5	12 4	10 9	14 5	9 7	9 0	9 0
Costilla	24 9	19 8	13 8	18 8	10 9	13 4	10 8	10 1	10 0	11 7
Mineral	14 8	15 9	12 7	12 5	8 3	5 9	7 7	7 2	9 0	9 2
Rio Grande	12 6	14 3	12 6	11 4	9 3	9 2	11 5	8 1	8 0	8 5
Saguache	18	16 9	14 7	15 4	14 6	12 5	17 6	11 0	11 0	11 0
Colorado Average	7 4	7 7	6 4	5 8	4 9	5 0	5 9	5 2	4 0	4 2

Income Levels

The per capita personal income level is one indicator of the overall wealth and health of the local economy It is calculated by taking the total personal income for an area and dividing the income by the estimated July 1 resident populations

Personal income is the sum of all earnings from work, personal rental income, personal dividends and interest, and the transfer of payments, before deductions for

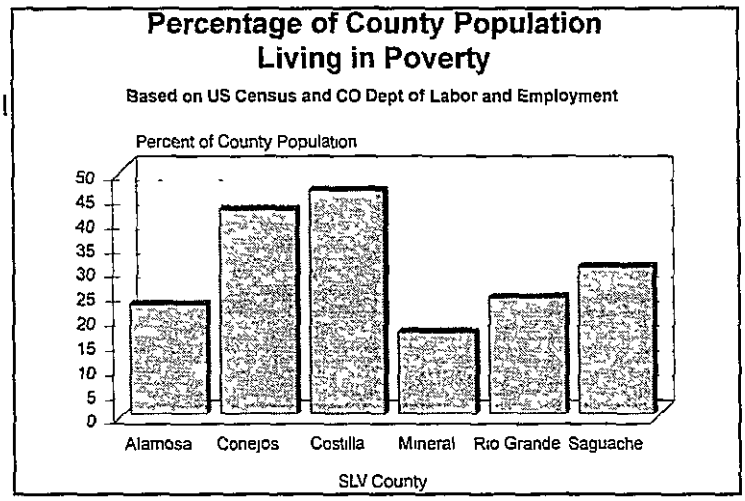


Figure 3-102. Poverty Levels

personal income taxes The Agriculture and Services sectors, which are predominant in the SLV, generally do not have high wages, before deductions for personal income taxes Table 3-109 lists the per capita personal income levels for the SLV counties and Colorado. It shows that the per capita income for the SLV counties is well below the state average Conejos County has had the lowest per capita income level in Colorado for several years

In conjunction with the per capita income level, estimates of the number of persons living in poverty (a level of income based on the number of people in a family) also give a good indicator of economic conditions in the SLV (Figure 3-102)

Table 3-109. Average Per Capita Personal Income

Average Per Capita Personal Income, San Luis Valley Counties Source REIS, US Dept of Commerce, BEA, June 1996, No adjustment for inflation						
County	**1987**	**1989**	**1991**	**1992**	**1993**	**1994**
Alamosa	$11,063	$12,437	$13,337	$13,942	15,943	16,325
Conejos	$7,631	$8,157	$9,383	$10,043	10,793	11,070
Costilla	$10,095	$12,379	$12,264	$13,070	14,511	14,444
Mineral	$10,430	$12,793	$16,422	$17,208	18,204	18,510
Rio Grande	$11,625	$12,882	$15,156	$15,151	17,321	17,476
Saguache	$10,081	$11,614	$12,227	$12,191	15,073	13,829
Colorado Average	**$15,594**	**$17,504**	**$19,740**	**$20,666**	**21,584**	**22,329**

County Payments

The U S Forest Service generates income for states, counties, and school districts in two ways The 25-Percent Payment, and Payments in Lieu of Taxes (PILT) These two payments interact, and the PILT payment can offset the benefits from the 25-Percent Payment Here is an explanation of each payment and how it works

25-Percent Payments

The U S Treasury is required by the Act of May 23, 1908 (16 U.S.A. 500) to pay each state treasurer 25-percent of all gross receipts from the national forests in that state This money comes from things like: timber sales, grazing permits, recreation fees, and mining leases on Forest Service lands

The state treasurer redistributes the money to counties and school districts The amount of money is based on the gross receipts of each Forest and the percentage of the Forest within each county, despite where the revenue-generating activities occurred

Table 3-110 Twenty-five Percent Fund Receipts by County from the RGNF

Twenty-five Percent Fund Receipts by County from the RGNF, unadjusted dollars					
County	**1985**	**1990**	**1993**	**1994**	**1995**
Alamosa	$2,348	$4,307	$10,137	$10,201	$13,514
Archuleta	$1,905	$3,824	$8,526	$8,539	$11,312
Conejos	$24,660	$49,504	$110,382	$110,544	$146,448
Costilla	$0	$0	$0	$0	$0
Custer	$0	$0	$0	$12	$16
Mineral	$32,284	$64,782	$144,306	$144,517	$191,455
Hinsdale	$16,878	$33,894	$75,560	$75,671	$100,248
Rio Grande	$22,596	$45,980	$102,503	$102,636	$135,970
Saguache	$52,101	$104,577	$235,298	$235,648	$312,187
San Juan	$1,999	$3,973	$8,858	$8,871	$11,752
Forest Totals	**$154,771**	**$310,841**	**$695,570**	**$696,636**	**$922,906**

The money that each county receives from the Forest Service must be spent on public works and schools In Colorado, 95% of the money received is spent on public works for roads, the other 5% is spent for schools Table 3-110 lists the actual amount of receipts generated by the RGNF that were received by each county Aside from inflation, the counties have received a larger payment from the 25-Percent payment in recent years The primary source of gross revenue for the RGNF is from timber sales While the Forest has sold less timber in recent years, the price received for the timber has increased considerably, thus the counties received larger payments

Payments in Lieu of Taxes (PILT)

Counties also receive payments from the federal government based on the acreage of certain federally owned land within each county These payments are known as Payment in Lieu of Taxes, or PILT payments (31 U S A Chapter 69, P L 94-565) PILT is paid directly to the counties by the Bureau of Land Management (BLM)

On October 22, 1994 the PILT Act was amended by P L 103-397 which called for increases to the $ 75/$ 10 variables used to compute payments and to the population table used to determine each unit of local governments population ceiling The annual increases began October 1, 1994 and will increase the variables to $1 65/acre and $ 22/acres respectively by 1999 The amendment also provides for annual adjustments based on inflation

PILT payments are calculated by one of two methods, but both methods use as their base the acres of "entitlement lands" in each county Entitlement lands consist of lands in the National Forest System, the National Park System, and the Bureau of Land Management

They also include lands dedicated to the use of Federal water resource development projects, most National Wildlife Reserve Areas withdrawn from the public domain, and some Department of Defense lands

The amount paid to counties is the higher of these two methods

A Seventy-five cents per acre of entitlement land, minus the Federal land payment money received by the county in the previous fiscal year (Table 3-111, column G), or

B. Ten cents for each acre of entitlement land within the county There are no deductions based on other payments (Table 3-111, column H)

Here are some limitations/exceptions to the calculation of these two methods

1. Payments to each county are subject to population payment limitations or ceilings Payment ceilings are based on a sliding scale, starting at $50 per capita and rising to a maximum of $1,000,000 (Table 3-111, columns E&F)

2 Under Alternative A, if the total calculated payment of 75 cents per acre exceeds the payment ceiling based on population, then the ceiling is used, not the 75 cents per acre figure

3 Under Alternative A, the amount used as payments to counties is the amount paid to the county, and does not include payments to other entities in the county, like schools (Table 3-111, column D).

Further review of Table 3-111 reveals that the PILT payment for federal Fiscal Year 1995 (10/1/94 to 9/30/95) completely offset 25-Percent payments for six of the ten counties Four counties, Hinsdale, Mineral, Saguache, and San Juan, received considerable payments from 25-Percent payments, which when combined with PILT payments were more than the PILT ceilings These large payments are the effect of several factors including: a large amount of entitlement lands, small population, and increased revenues from Forest Service activities

Table 3-111. PILT Calculations

PILT Calculations Rio Grande National Forest - FY 95								
A	B	C	D	E	F	G	H	I
County	RGNF Acreage	Entitlement Acres	Prior FY 94 Payments	Population	Ceiling based on Population	Alternative A* $0 75 per acre minus Prior payments	Alternative B $0 10 per acre	Amount Received FY 93 **
Alamosa	27,099	85,909	9 788	14,000	$539 000	$70,107	$10 309	$70,107
Archuleta	22 792	441 442	$142,443	6 000	$348,000	$205 557	$52,973	$205 557
Conejos	295 056	493,251	$106 229	7,000	$381,500	$275 271	$59 190	$275 271
Costilla	0	565	$75	3 212	$199,144	$450	$68	$450
Custer	34	174 560	$21,539	2 140	$132,680	$111,141	$20,947	$111,141
Hinsdale	201,975	676,832	$158 029	499	$30 938	$0	$30 938	$30 938
Mineral	385,734	526 255	$177,378	571	$35 402	$0	$35,402	$35,402
Rio Grande	273,995	334,725	$99,974	11,000	$462,000	$211 320	$40,167	$211 320
Saguache	628,960	1 330,771	$289,679	4,8112	$298,344	$8665	$159,693	$159,693
San Juan	23,679	214,235	$51,818	585	$36 270	$0	$25,708	$25,708

* If $0 93/acre is larger than ceiling, than the ceiling is used
** The greater of Alternative A vs B is selected if less than the ceiling

Economic Contributions to the Local Economy

The SLV can be described as a billion dollar economy (represented by total industry output) It is an agriculture and service dependent economy (ERS, 1994), with retail trade as the third largest industry sector *The government, as* mentioned in the previous discussion on employment, is also a very large segment of the economy, being comprised of school district, city, county, state, and federal employees

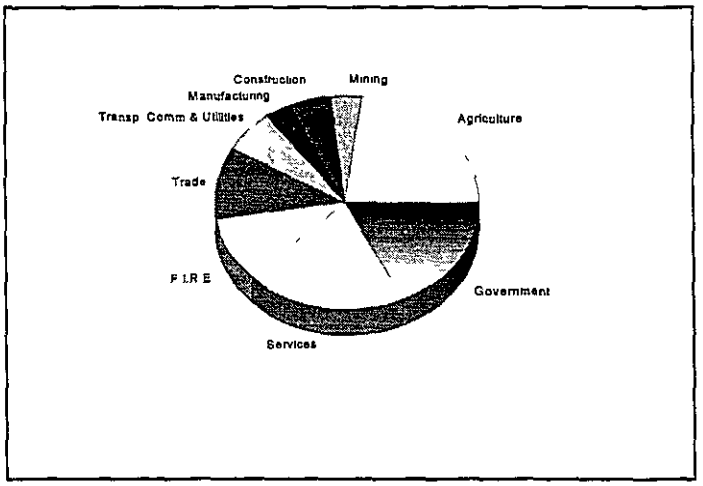


Figure 3-103. SLV % Income by Industry, 1992

Agriculture is 23% of the valley's economy The largest contributor of the agricultural sector is crops and hay/pasture A solid portion of the agricultural sector is the livestock industry Table 3-112 lists summary information for the livestock industry The contribution of the cattle and sheep industry is about 1 6% of the SLV economy

Table 3-112. SLV Livestock Industry - Summary Information

SLV Livestock Industry - Summary Information					
	Cattle & Calves		Sheep & Lambs		
	1992*	1987*	1995 Wool Rpt **	1992*	1987*
Colorado State	3,086,717	2,946,334		730,272	708,070
SLV Counties	111,316	109,196	36,412	57,917	55,395
Percent of State Total	3 6%	3 7%		7 9%	7 8%
Total SLV Animal Months	1,335,792	1,310,352	436,944	695,004	664,740
SLV Cattle/Sheep Total Place of Work (PoW) Income	783 Jobs $8 1MM		17 Jobs $ 40MM		
1995 USFS Animal Months	72,845		7,287		
Percent USFS of SLV Area Total	5 5%		1 7%		
Total USFS Range	43 Jobs		1 Job		
Total Place of Work (PoW) Income	$0 446MM		$6,880		

* From 1992 US Agricultural Census
** The 1995 Wool/Unshorn Report, Farm Service Agency, USDA, was used for sheep numbers based on CSU Livestock Extension Specialist review and comment that 1992 Census was still valid for cattle but not for sheep
Economic data obtained from IMPLAN economic model Dollars and model based on 1992 data

Another contributor to the local economy is the forest products industry This industry includes loggers, firewood cutters, sawmill workers, truck drivers and various other professionals. This industry encompasses portions of the manufacturing, transportation and services sectors of the economy This industry has a total industry output (TIO) of $21 million dollars or 2 1% of the SLV economy. Table 3-113 illustrates this industry's contribution to the economy and the RGNF portion based on volumes harvested

Table 3-113. SLV Forest Products Industry Information

SLV Wood Products Industry Information, 1995					
	Board feet /1995	Jobs		Total Income (PoW) MM$	
SLV		19,360	100%	510 7	100%
SLV Forest Products Industry	39 7MMBF/Yr	198	1 02%	6 4	1 25%
RGNF Contribution	13 1MMBF/Yr	65	0 33%	2 1	41%
Information based on 1995 production and 1992 IMPLAN data set and dollars					

Another major economic portion of the economy is recreation Recreation has many forms, from hunting to dude ranches, from backpacking to fishing; from skiing to camping It primarily involves the lodging, retail trade, and services sectors of the economy Unfortunately, its diversity also makes it very hard to describe economically We can describe the economic contributions of users of the Forest, but to describe the economics of the recreation sector for the entire six-county area is impossible at this time

Table 3-114 shows the SLV economy in terms of income and employment This table also shows the Forest's annual income and employment contribution to the SLV economy by major program area Results for each of these groups are based on National Forest activities (outputs and expenditures) that occurred within the area during FY 95 Total effects are shown for income and employment in both absolute and relative terms The relative contributions of each group and the total to the area's economy are shown as "% of Local " The relative importance of each resource group's contributions within the Forest is shown as "% of NF (National Forest) "

What Table 3-114 doesn't illustrate, but is alluded to in previous sections, is the high level of dependency on the Forest by SLV residents for subsistence Because of high unemployment, low per capita income, and a strong multi-generational tie to the region, the RGNF is used extensively as a source of fuel and food Hunting, fishing, trapping, and firewood gathering are important uses of the Forest by local residents These uses are very difficult to quantify and qualify

Table 3-114. RGNF Contributions to the Local Economy

Rio Grande National Forest Contributions to the Local Economy - 1995						
	Place of Work (PoW) Income			Annual Employment (# Jobs)		
	Total (MM$)	% of Local	% of RGNF	Total	% of Local	% of RGNF
Local Economy Total	510 70	100%		19,360	100%	
NF Rec, Fish & Wildlife	16 97	3 32%	69 7%	770	3 98%	71 6%
Downhill Skiing	1 75	0 34%	7 2%	99	0 51%	9 2%
All Other R, F, WL	15 22	2 98%	62 5%	671	3 46%	62 4%
Range/Grazing	0 45	0 09%	1 9%	44	0 23%	4 1%
Timber	2 11	0 41%	8 7%	65	0 34%	6 1%
USFS Expenditures (Salary and nonsalary)	4 82	0 94%	19 7%	196	1 01%	18 2%
NF Total	24 35	4 76%	100%	1,075	5 55%	100%

Note Add "All Other, R, F, WL" and "Downhill Skiing" to equal NF Recreation, Fish, and Wildlife Income and employment estimates based on IMPLAN, using 1992 data set and dollar va%ues

CONSEQUENCES OF THE ALTERNATIVES

Budget Projections

To better analyze the entire effects of each Alternative, a budget was prepared for each Alternative The budgets were developed from the theme of the Alternative, the expected goods and services to be provided from the Alternative, and the necessary actions and expenditures required to deliver those expected goods and services The budgets developed from this process, as well as the corresponding revenues and outputs, were used to show what could be done in each Alternative

Historically, the Forest has not received the funds necessary to fully implement previous Plans. Figure 3-104 illustrates the funding levels of the Forest in the past decade A review of Congressional priorities, recent fiscal budgeting trends and consultation with the Regional Budget Officer has revealed an expected Forest budget of $5,660,000 Using this

amount, a second budget and level of outputs were produced for each Alternative to show what would probably get done in each Alternative

The amount of experienced budget funding given to each program area varied by Alternative The amount allocated to each program area was determined by the ID Team Table 3-115 summarizes the allocations by Alternative These allocations will be used as a starting point during the yearly budget distribution process, but change during the Congressional allocation process, and Forest Service national, regional or Forest priorities could affect the actual budget mix received Table 3-116 compares the Alternative budgets by program area and funding level

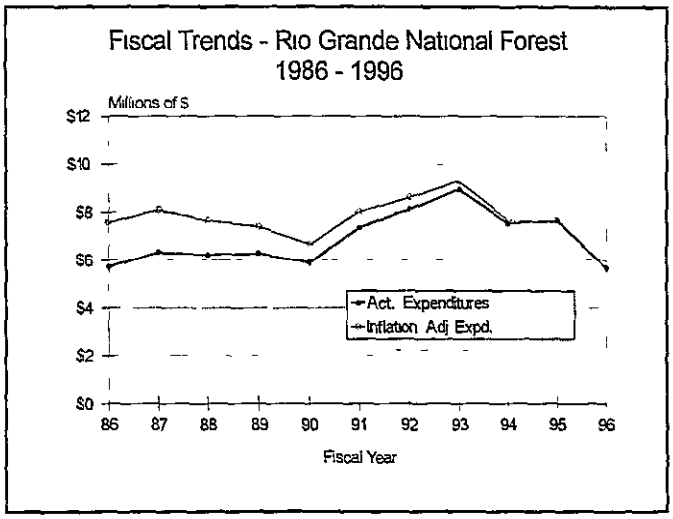


Figure 3-104. Fiscal Trends - RGNF

Table 3-115. Budget Allocations by Alternative

Experienced Budget Allocations by Program Area and Alternative							
Cost Center	A	B	D	E	F	G	NA
Recreation/ Wilderness	29%	24%	24%	26%	22%	27%	29%
Wildlife/ Fisheries	13%	6%	8 %	8%	16%	8%	6%
Range	7%	9%	9%	9%	6%	9%	8%
Timber	2%	19%	13%	11%	5%	14%	12%
Water, Soil & Air	13%	5%	7%	8%	12%	6%	3%
Minerals Mgmt	1%	3%	3%	2%	1%	2%	1%
Infrastructure	13%	12%	12%	12%	12%	12%	11%
Protection	12%	12%	14%	14%	16%	12%	16%
General Administration	10%	10%	10%	10%	10%	10%	14%

Table 3-116 Forest Plan Revision Budget Comparison by Alternative and Budget Level (M$)

Cost Center	Alternative A		Alternative B		Alternative D		Alternative E		Alternative F		Alternative G		Alternative NA	
	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp
Recreation/ Wilderness	1,899	1,642	1,917	1,358	1,911	1,359	1,980	1,472	1,835	1,245	1,920	1,528	1,843	1,618
Wildlife/ Fisheries	1,171	736	1,171	339	1,1171	472	1,171	452	1,171	906	1,171	452	1,171	339
Range	452	396	688	509	598	509	599	509	393	340	480	509	529	442
Timber	151	125	3,048	1,251	2,011	830	1,102	708	677	313	1,631	890	2,106	735
Water, Soil, & Air	1,132	803	1,132	283	1,132	396	1,132	453	1,182	679	1,065	340	1,132	187
Minerals Mgmt	274	57	289	170	289	170	279	113	279	57	289	113	279	106
Infrastructure	2,579	1,001	2,557	968	2,572	1,080	2,531	908	2,510	1050	2,572	980	2,369	802
Protection	394	360	394	364	433	390	433	390	394	365	394	369	381	350
General Administration	1,34	689	1,034	689	1,034	689	1,034	689	1,034	689	1,034	689	1,300	1,274
Total	9,085	5,808	12,230	5,931	11,151	5,895	10,261	5,694	9,475	5,643	10,555	5,870	11,111	5,853

Note: Rounding causes some total to be slightly off.

Revenue Projections

Revenue projections were developed for each Alternative based on the two funding levels and estimates of use These estimates are used later to determine the financial efficiency of each Alternative, as well as estimate the amount of returns to the U.S Treasury and payments to counties

As shown in Table 3-117 and discussed in previous sections, the differing amounts of land and money allocated to timber harvesting are the primary reasons for revenue differences

Table 3-117. Projected Revenues

Projected Average Annual Revenues by Alternative for the 1st Decade (Full/Experienced Budgets (M$))							
REVENUE SOURCE	Alt A	Alt B	Alt D	Alt E	Alt F	Alt G	Alt NA
Recreation	380 / 380	405/ 350	405/ 350	395/ 360	370/ 340	415/ 370	390/ 360
Range	85.5/ 85 5	122.3/ 122 3	122 3/ 122 3	102.1/ 102 1	55.4/ 55 4	122 3/ 122 3	122.3/ 122 3
Timber	55 6/ 55 6	5,488 8/ 2,877 1	4,320 4/ 1,945 4	2,630 7/ 1,475 7	1,483 4/ 636 6	4,143 5/ 2,202 8	3,950 7/ 1,848 2
Oil & Gas	0/ 0	411/ 411	411/ 411	411/ 411	15/ 15	411/ 411	411/ 411
Total	521 1/ 521 1	6,427 1/ 3,760 4	5,258 7/ 2,828 7	3,538 8/ 2,348 8	1,923 8/ 1,047 0	5,091 8/ 3,106 1	4,874 0/ 2,741 5
Rounding causes some numbers to be slightly off							

Financial and Economic Efficiency

As public officials, Forest Service managers are charged with wise use and conservation of taxpayers' dollars Financial efficiency measures the business end of managing the Forest by examining actual revenues and costs Sound business management can be mutually supportive of long-term multiple-use resource management and a healthy economy. Improving financial efficiency will increase the net revenues for those programs and projects which are above-cost and will reduce the differences between costs and revenues for those programs and projects which are provided below cost

Economic efficiency is defined as how well the dollars invested in each Alternative produce benefits to society Some of these benefits can be assigned a dollar value, even though no actual dollar transaction occurs For instance, hiking on trails is provided to the public free of charge However, there is a value associated with hiking that can be calculated based on what a hiker would be willing to pay if they were charged Such assigned dollar values

(from the Rocky Mountain Region of the US Forest Service) were used for recreation, grazing, hunting, wildlife use, and water outputs

Some outputs, including environmental, economic, or social impacts are not assigned monetary value. In this case, economic efficiency measures how well these impacts are achieved in the least costly manner Examples include the value to future generations of maintaining biological diversity, protecting and preserving cultural resources or maintaining scenery Other outputs could be assigned monetary value, but there is uncertainty over whether the outputs will occur and what contribution there could be from the National Forest

The main criterion used in financial and economic efficiency analysis is present net value(PNV) PNV is an index in which discounted costs are subtracted from discounted benefits or revenues A four-percent discount rate was used Future costs, benefits, and revenues were projected for 50 years.

Two other factors often used to indicate financial and economic efficiency are the Revenue/Cost index and the Benefit/Cost index By dividing either the present value of revenues or benefits by the present value of costs an index is obtained. When the value of this index is under 1.0, then costs are greater than benefits or revenues. If the value is over 1 0, than benefits or revenues are greater than costs Overall the costs of any Alternatives is greater than the revenues, and when examining individual programs, only the timber and oil and gas programs generate greater revenues than costs

When evaluating tradeoffs, the use of PNV is often misunderstood PNV is thought by some to be a useful summary measure to be weighed against environmental, community, and other social goals in choosing a preferred Alternative

The other thought is that PNV can serve this role, but that revenues and costs are also relevant indicators With this thinking PNV can be used in comparing Alternatives when coupled with indicators for such goals and objectives as supporting the economies of local communities, maintaining biological diversity, and providing pleasing visual qualities

Using PNV and revenue- or benefit-cost indicators will not always result in identical rankings of Alternatives NFMA recommends PNV, and it is best suited for ranking Alternatives

Using the factors discussed above, Table 3-118 shows that no one Alternative is clearly the best, economically or financially, given either budgeted funding level While Alternative B has the best financial NPV for full and experienced budget levels, Alternative G has the best Economic NPV for full budget level Likewise, Alternative G has the best benefit/cost index for full budget levels, while Alternative B has the best benefit/cost index for experienced budget levels

Table 3-118. Summary & Comparison of Financial & Economic Efficiency Analysis.
(Thousands of Dollars (M$))

Financial/Economic Indicator	Alternative A	Alternative B	Alternative D	Alternative E	Alternative F	Alternative G	Alternative NA
Full Budget							
Returns to US Treasury (1st Decade Avg)	558 1	6 486 4	5,318 0	3 596 6	1,959 8	5,132 2	4,931 1
Funds to Counties	139 5	1 724 3	1,432 2	1 001 9	493 7	1 385 8	1,335 5
Net US Treasury	418 6	4,762 0	3,885 7	2 594 7	1,466 1	3,746 4	3,595 6
Present Value - Revenues	13 312 6	184,037 8	148,772 3	100 248 9	52,707 7	141,554 5	139,146 9
Present Value - Costs	198 647 9	272,941 4	257,366 9	242,288 1	208 084 2	231,893 4	251,354 5
Net Present Value - Financial	(185,335 3)	(88,903 7)	(108,594 6)	(142,039 2)	(155,376 6)	(90,338 8)	(112,207 6)
Revenue/Cost	0 07	0 67	0 58	0 41	0 25	0 61	0 55
Present Value -Benefits	764,046 0	1 166,711 2	1,123,982 7	1 069 108 4	794,915 7	1 141 880 4	1 082,326 7
Net Present Value - Economic	565,398 1	893,769 8	866,615 8	826,820 2	586,831 5	909,987 0	830,972 2
Benefit/Cost	3 85	4 27	4 37	4 41	3 82	4 92	4 31
Experienced Budget							
Returns to US Treasury (1st Decade Avg)	554 9	3 794 5	2,862 8	2,383 8	1 024 7	3,142 1	2,601 1
Funds to Counties	138 7	1 051 4	818 4	698 7	259 9	888 3	753 0
Net US Treasury	416 2	2 743 1	2,044 3	1,685 1	764 8	2,253 8	1,848 1
Present Value - Revenues	13,243 9	104,593 8	77 226 8	66 839 4	28,682 6	85,193 8	73,504 6
Present Value - Costs	128,380 5	132,862 8	131 067 5	126 885 7	125,535 3	132,212 2	132,528 8
Net Present Value - Financial	(115,136 6)	(28,269 0)	(53,840 7)	(60,046 4)	(96,852 8)	(47 018 4)	(59 024 2)
Revenue/Cost	0 10	0 79	0 59	0 53	0 23	0 64	0 55
Present Value - Benefits	763,942 9	886,917 5	855 495 0	841 934 1	768,668 0	879,843 9	828,009 1
Net Present Value - Economic	635,562 4	754 054 7	724 427 5	715,048 4	643,132 7	747,631 8	695,480 3
Benefit/Cost	5 95	6 68	6 53	6 64	6 12	6 65	6 25

Economic Impacts

Changes in Forest Service expenditures (salaries, equipment, contracts), the production of natural resources (timber and grazing), and uses of the Forest (recreation) have various effects on local jobs and income An increase in recreation or timber production may mean an increase in jobs and income to local counties In addition, if production is decreased in one resource and increased in another, there may be a shifting of jobs from one industry to another or a complete loss if individuals leave the valley.

In economic impact analysis, a primary assumption is that reductions in outputs result in complete loss of specific jobs, and conversely, that increases in outputs create jobs Said another way, we must assume that the people who lose jobs move away from the analysis area and new jobs bring new people into an area. If people do not move, but instead get another job in the same area, then the economic impact is either greatly reduced or completely nullified. A good example would be the timber industry. If the industry can substitute logs from the RGNF with logs from other Forests or private lands, then the impact from selling fewer logs from the RGNF is greatly reduced or completely nullified If the industry can not substitute logs, and jobs are lost, and not rehired within the same area, then the impact can be significant. If the RGNF increases log sales, and the industry stops buying logs from private sources (substitution), there will be no economic benefit

The Forest uses a regional economic impact model (IMPLAN) to estimate the economic impacts, as measured by a change in direct, indirect and induced income and employment (input/output analysis), for each Alternative The following discussion and comparison is based on the change from Alternative NA, experienced budget level See Appendix L for more discussion of this analysis

Effects on Income and Employment from Forest Service Expenditures

Forest Service expenditures are for salaries, equipment, and contracts From these expenditures various amounts of direct, indirect or induced effects occur in the local

Table 3-119. Effects of Forest Service Expenditures

Percent Change in Employment and Income from Alt NA, experienced level, by Alternative based on Forest Service Expenditures (Full / Experienced Budget Levels)		
Alternative	Employment	Personal & Property Income (Millions $)
A	+55%/-1%	+56%/+0%
B	+109%/+1%	+117%/+2%
D	+90%/+1%	+92%/+0%
E	37%/-3%	+29%/-2%
F	+62%/-4%	+63%/-3%
G	+81%/+0%	+81%/+0%
NA	+90%/+0%	+90%/+0%

economy. Table 3-119 illustrates the effect these expenditures have on the local economy in terms of a percent change in employment and income

Effects on Income and Employment from Recreation Management

The current total recreation use on the Forest is estimated to be 1 1 million visitor days each year For effects on income and employment, visitor use was separated out by local and nonlocal use Table 3-120 illustrates the effect nonlocal visitor expenditures have on the local economy in terms of percent change in employment and income from Alternative NA Full and Experienced budget levels produce the same outputs

Table 3-120. *Effects of Recreation Management*

Percent Change in Employment and Income by Alternative from Nonlocal Recreation Visitors		
Alternative	Employment	Personal & Property Income (Millions $)
A	-1%	0%
B	+2%	+2%
D	+4%	+4%
E	+2%	+3%
F	-3%	-2%
G	+6%	+6%
NA	+0%	+0%

Effects on Income and Employment from Range Management

Cattle and sheep animal unit months(AUMs) vary by each Alternative. Table 3-121 illustrates the percent change from current Forest contributions in employment and income by Alternative Full and experienced budget levels produce the same outputs

Table 3-121. Change in Employment and Income by Alternative from the Range/Grazing Program

Change in Employment and Income by Alternative from the Range/Grazing Program				
Alternative	Cattle (M AUMs)	Sheep (M AUMs)	Employment	PoW Income (Millions $)
A	50 97	5 10	-3 7%	-5 1%
B	72 89	7 29	+0%	+0%
D	72 89	7 29	+0%	+0%
E	60 86	6 09	-2 1%	-2 8%
F	33 04	3 31	-6 7%	-9 3%
G	72 89	7 29	+0%	+0%
NA	72 89	7 29	+0%	+0%

Effects on Income and Employment from Timber Management

Percent change in employment and income due to timber harvesting is shown in Table 3-122 Table S-2, lists the volumes by category which will be harvested during the first decade

Table 3-122. Effects of Timber Management

Percent Change in Employment and Income by Alternative from the Timber Program (Full/Exp)		
Alternative	Employment	Personal & Property Income (Millions $)
A	-63%/ -63%	-63%/ -63%
B	+120%/ +38%	+118%/+38%
D	+86%/ +0%	+85%/ +0%
E	+23%/ -19%	+23%/-19%
F	-9%/ -42%	-10%/ -42%
G	+86%/ +14%	+85%/ +14%
NA	+70%/ +0%	+69%/ +0%

Effects on Income and Employment from Minerals and Oil & Gas Leasing

Most mining in this state occurs on private land The expenditures on employment and machinery from oil & gas leasing will generally be to sources outside of the Valley and can be considered the same in all Alternatives The projection of drilling some exploratory wells in the next decade, would have little, if any, effect on the local economy.

Effect of Forest Service Payments on Local Governments

Table 3-123 displays estimated 25-Percent payments to counties resulting from programs on the Forest, including payments from timber sales, grazing permits, campground fees, and special-use permit fees

These payments are paid to county road funds and school districts While the amounts will vary for the school districts, PILT payments will be adjusted for the counties This means that the total amount of payments from the 25-Percent Fund and PILT will stay the same for Alamosa, Archuleta, Conejos, Costilla, Custer, and Rio Grande counties In Alternatives A and F, Hinsdale, Mineral, Saguache, and San Juan counties may see a drop in 25-Percent Funds to as little as 20% of recent payments. Continued adjustments in the PILT payments may offset any loses from the 25-Percent Fund

Table 3-123 Payments to Counties from the 25-Percent Fund

Average Annual Payment to Counties - first decade (M$) from 25-Percent Fund - Full / Experienced Budgets							
County	Alt A	Alt B	Alt D	Alt E	Alt F	Alt G	Alt NA
Alamosa	2 1 / 2 1	26 2 / 16 0	21 7 / 12 4	15 2 / 10 6	7 5 / 4 2	21 0 / 13 5	20 3 / 11 4
Archuleta	1 7 / 1 7	21 2 / 13 0	17 6 / 10 1	12 3 / 8 6	6 1 / 3 4	17 1 / 10 9	16 5 / 9 3
Conejos	22 2 / 22 1	274 9 / 167 6	228 4 / 130 5	159 8 / 111 4	78 7 / 43 7	221 0 / 141 6	212 9 / 120 1
Costilla	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Custer	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Hinsdale	15 2 / 15 2	188 4 / 114 9	156 5 / 89 4	109 58 / 76 3	53 9 / 29 9	151 4 / 97 0	145 9 / 82 3
Mineral	29 1 / 29 0	360 0 / 219 5	299 0 / 170 8	209 1 / 145 9	103 1 / 57 2	289 3 / 185 4	278 8 / 157 2
Rio Grande	20 3 / 20 2	251 2 / 153 1	208 6 / 119 2	145 9 / 101 8	71 9 / 39 9	201 9 / 129 4	194 5 / 109 7
Saguache	46 9 / 46 7	580 2 / 353 7	481 9 / 275 4	337 1 / 235 1	166 1 / 92 1	466 3 / 298 9	449 4 / 253 4
San Juan	1 8 / 1 8	22 3 / 13 6	18 5 / 10 6	13 0 / 9 0	6 4 / 3 5	17 9 / 11 5	17 3 / 9 7
Total Payments	139 5 / 138 7	1,724 3 / 1,051 4	1,432 2 / 818 4	1,001 9 / 698 7	493 7 / 259 9	1,385 8 / 888 3	1,335 5 / 753 0

Total Effects

The Forest contributes to the economy both as an employer and as an agency with significant economic impact on the recreation, timber, and livestock industries Activities and services related to the Forest contribute around 5% of the income (Place of Work) and employment in the Valley. Recreation is the largest contributor

Counties will continue to be affected by taxation issues, population changes, and increasing budget needs Population in-migration may necessitate increased land-use and economic planning throughout the Valley This in-migration may also bring economic growth and diversity

Each Alternative contributes differently to the local economy Alternatives B, D, G and NA, in that order, return the most revenue to the U S Treasury, state, and counties Alternatives A and F result in significantly lower revenues The revenues from A and F are lower than the other Alternatives primarily because of the smaller amounts of timber harvesting and livestock grazing. These lower revenues would then affect the payments to counties, and in particular, payments to school districts.

For most of the counties, the sum of payments from the 25-Percent fund and PILT will be the same. The exception will be Hinsdale, Mineral, Saguache, and San Juan counties, which would receive as little as 20% of recent 25-Percent Fund payments The reduction in 25-Percent Fund payments may be offset by recent changes to the PILT program Reductions in the 25-Percent Fund payments would affect schools and county road work Federal payments will continue to have an important role in county budgets, particularly PILT payments.

Harvesting timber at the full budget levels may increase employment in the region, and conversely, a decrease in the amount of timber offered may cause some unemployment Rideout's timber supply and demand report (Rideout, 1992) indicated that if total supplies of wood dropped in the timbershed, some mills may close or reduce operations. Supply substitution could offset economic benefits or losses If supplies could not be obtained from other locations in the timbershed, some jobs will be lost in the timbershed, but their exact location is difficult to determine because competition and various other market factors are as much a consideration as is the quantity of timber sold from any one Forest

OTHER CONSIDERATIONS

Potential Conflicts with the Goals and Objectives of Other Agencies

The Alternatives mesh, for the most part, with the goals and objectives of other agencies with land adjacent to or near the RGNF The following statements are provided to help define areas of potential differences between the Forest Service and the policies, management, and enforcement, responsibilities of other agencies

Coordination with Other Agencies

Throughout the Forest Plan Revision effort, the RGNF has coordinated the development and content of the Alternatives with local, State, and other Federal Agencies

The Forest has worked closely with the Bureau of Land Management on the development of oil and gas leasing options (and Stipulations within options), the identification of lands suitable for oil and gas leasing, and the administrative responsibilities for management of the minerals program

Coordination with BLM also occurred with the development of Range management policies, the identification of Unroaded and Undeveloped Areas, Travel Management, and the potential for shared administrative responsibilities in the future.

The RGNF has coordinated closely with the Colorado Division of Wildlife throughout the Revision process in the identification of big game winter range and special wildlife habitat areas (primarily bighorn sheep habitat)

Coordination has occurred with various State offices including the

Colorado Division of Wildlife
Colorado State Forest Service
Colorado Division of Water Resources
Colorado Department of Health

Coordination has involved both local and regional State representatives

Several meetings have been held involving, or directly with, the County Commissioners in and around the San Luis Valley to assure that County concerns (primarily for economic stability and rural development) are addressed in the range of Alternatives

The RGNF has coordinated closely with the Southwest Area Council throughout the Revision effort to assure that American Indian Tribal interests and concerns are addressed in the range of Alternatives

Potential Resource Conflicts

Mining and minerals are important to county, state, and national plans at all levels of the economy The effects of implementing any Alternative may conflict with Federal mining laws The U S Mining Laws Act of 1872 predates all other laws that govern Forest Service activities Because of this, conflicts could arise between administration of mining and other resources such as scenic resources, water, sensitive plant and animal species, or recreation

The federal requirements and authorities for maintenance and protection of water resources may conflict with the state's administration of water rights

Resource Commitments

Energy Requirements for Implementing Alternatives

Energy is consumed in the administration and use of natural resources from the National Forest For the purpose of the Forest Plan Revision, energy sources are gasoline, diesel fuel, liquefied petroleum, natural gas, electricity and wood The main activities that consume energy are timber harvest, range use, recreation - both dispersed and developed - road construction or reconstruction, and administrative activities of the Forest Service Although other activities are consumers of energy, the following are those considered significant to the implementation of any Alternative

- Energy consumed in harvesting timber is the amount required for felling, bucking, skidding, loading, hauling, performing road maintenance, and the industrial traffic associated with harvest activities.

- Energy consumed in utilizing range vegetation is the amount required for hauling stock to and from the range, permittee range-improvement activities, watering, salting and herding

- Energy consumption related to recreation is based on the estimated number of dispersed and developed recreation visitor days, estimated trip lengths, and facility construction

- Energy consumed in road construction and reconstruction activities is that used by contractors in completing road development

- Energy consumed by Forest Service administration includes vehicle use for all administrative activities, the lighting of buildings, heating and air conditioning, road maintenance and construction projects performed by Forest Service personnel, and fuel used in such equipment as small engines and burners

Unavoidable Adverse Effects

The application of Forestwide Standards and Guidelines and the resource protection measures described in Chapter 3 would limit the extent and duration of adverse environmental effects Nevertheless, some residual effects would occur under any Alternative.

Air Quality

Road construction, road reconstruction, timber harvest, prescribed burning, and some recreational activities cause temporary and localized reductions in air quality due to dust, exhaust fumes, and/or smoke Smoke from wildfires can temporarily reduce air quality and visibility Firewood gathered on Forest System lands and burned for heat contributes gases and particulate matter to the atmosphere

Soils

Wherever vegetation cover and soils are disturbed, there is some short-term erosion. Activities involving vehicles or heavy equipment cause soil compaction

Water Quality

When vegetation cover is removed, or soils disturbed or compacted, there is a short-term increase in sedimentation (movement of soil particles into water) Natural precipitation and flood events can cause sedimentation Natural occurrences of chemical compounds in surface water reduce water quality Mining operations have the potential to contaminate surface water

Hazardous Materials

The use of motor vehicles and the transport of hazardous materials on roads and highways carry the potential for accidental spills

Heritage Resources

Both human activities and natural events have the potential to disturb or destroy heritage resources.

Vegetation

Removal of vegetation cover and soil disturbance or compaction result in loss of vegetative productivity Depending on the duration of the project, the loss may be short- or long-term

Fire

The potential for adverse effects from wildfire, including property destruction, will continue Logging and thinning may increase fuel hazards in the short-term if slash is left scattered on the ground However, the potential for a catastrophic wildfire is probably greater in unmanaged forest stands than in managed stands

Insects and Diseases

Endemic levels of forest insects and diseases will continue Epidemic levels of insect infestation will occur occasionally, but are more likely in unmanaged stands The incidence of root diseases is most to increase where tree stands are entered for the harvesting of timber at frequent intervals

Wildlife

Activities, such as timber harvest and road construction, cause short-term disturbance and displacement of some wildlife species Continual activity, such as traffic on a highway or hiking on a trail, may cause long-term displacement from localized areas Individual animals are accidentally killed by human activities. Fish habitat can be degraded by low-pH water, sediment, or contaminants.

Recreation Opportunities

Activities, such as timber harvest and road construction, temporarily disrupt recreation uses. Some kinds of developments (such as hiking trails) or activities (such as motorized recreation use) may displace incompatible recreation uses over the long term

Scenic Resources

Scenic quality may be reduced by activities that remove vegetative cover, disturb soils, alter the natural landscape, involve the presence of heavy equipment, and produce dust The effects of timber harvest or road construction are short-term The effects of other activities, such as mining operations, may last for a long time

Income and Employment

Reductions in timber harvest levels may cause corresponding reductions or displacement in local timber industry employment and income Increased recreation use on the Forest could result in increases in recreation related employment and income

Short-Term Uses versus Long-Term Productivity

Short-term uses are those expected to occur on the RGNF over the next ten years (the expected life of this plan), recreation use, grazing, mineral development, timber harvest, and prescribed burning Long-term productivity refers to the capability of the land to provide resource outputs for a period of time beyond the next ten years

Minimum management requirements established by the regulations (36 CFR 219 27) provide for the maintenance of long-term productivity of the land Minimum management requirements, as reflected in Forestwide Standards and Guidelines, will be met under all Alternatives They assure that long-term productivity of the land is not impaired by short-term uses

Monitoring, as described in Chapter 5 of the Proposed Revised Forest Plan, applies to all Alternatives The purpose of monitoring is to assure that long-term productivity of the land is maintained or improved If monitoring shows that Forestwide Standards and Guidelines are inadequate to protect long-term productivity, the Final Forest Plan will be amended

Monitoring includes determining the effects of using new technology For example, many timber purchasers are now skidding whole trees to landings rather than trimming and cutting up individual logs in the woods. Research and monitoring will test whether whole-tree skidding affects long-term nutrient levels in soils

Although all Alternatives are designed to maintain long-term productivity, there are differences among the Alternatives in the long-term availability or condition of resources There also may be differences among Alternatives in long-term expenditures necessary to maintain Desired Conditions These types of differences between the Alternatives are described in Chapter 3

Irreversible and Irretrievable Commitments of Resources

Irreversible and irretrievable commitments of resources are defined in Forest Service Handbook 1909 15 (2/21/92)

The irreversible commitment of resources mean the consumption or destruction of nonrenewable resources, such as minerals or heritage resources, or the degradation of resources, such as soil productivity, which can be renewed only over long periods of time

Irretrievable commitments of resources are opportunities foregone; they represent tradeoffs in the use and management of Forest resources Irretrievable commitments of resources can include the expenditure of funds, loss of production, or restrictions on resource use

With one exception, described below, decisions made in a Forest Plan do not represent actual irreversible and irretrievable commitments of resources This is because the Forest Plan says only what kinds and levels of activities are appropriate in different parts of the Forest, it does not make project decisions (For more information, see Chapter 1, "Decisions Made in the Forest Plan ") The decision to irreversibly and/or irretrievably commit resources occurs (1) at the time the Forest Service makes a project decision, (2) at the time Congress acts on a recommendation to establish a new Wilderness or to include a stream in the Wild and Scenic River System; or (3) at the time the Regional Forester designates a Research Natural Area or a Special Interest Area

The only exception pertains to oil and gas leasing. Through this Forest Plan Revision effort, a decision will be made to conditionally authorize the Bureau of Land Management to lease certain Forest System lands for oil and gas exploration and production (36 CFR 228 102(e) Although surface disturbance cannot occur on leased land without further analysis and decision-making (as described in Chapter 2), issuance of a lease confers certain rights on the lessee, and therefore represents a commitment of resources

The following irreversible resource commitments are associated with decisions being made in the Forest Plan Revision. They would occur to some degree as the result of any Alternative

- Consumption of fossil fuels, such as oil and gas
- Extraction and use of minerals

- Destruction of or damage to heritage resources.

The potential for irreversible destruction of private property through wildfire would occur to varying degrees under all Alternatives

Some Alternatives provide for management activities, including timber harvest and road construction in unroaded areas (in some Alternatives these activities are not projected to occur until after the first ten years) Such activities do not represent an irreversible commitment of resources in that none of these areas is untouched or pristine All contain some evidence of human activity, such as roads, stumps from timber harvest, fences, and/or mining excavations and buildings

Examples of irretrievable resource commitments associated with Forest Plan Revision decisions are as follows

- Commodity outputs and uses (such as motorized recreation) would be curtailed or eliminated in areas recommended for and subsequently designated as Wilderness, Wild and Scenic Rivers, Research Natural Areas or Special Interest Areas

- Opportunities for non-motorized recreation, solitude, and primitive or Wilderness experiences would be foregone if portions of the RGNF are not allocated to or recommended for and subsequently designated for these purposes

- The opportunity for oil and gas exploration and development would be foregone on lands identified as unavailable for leasing

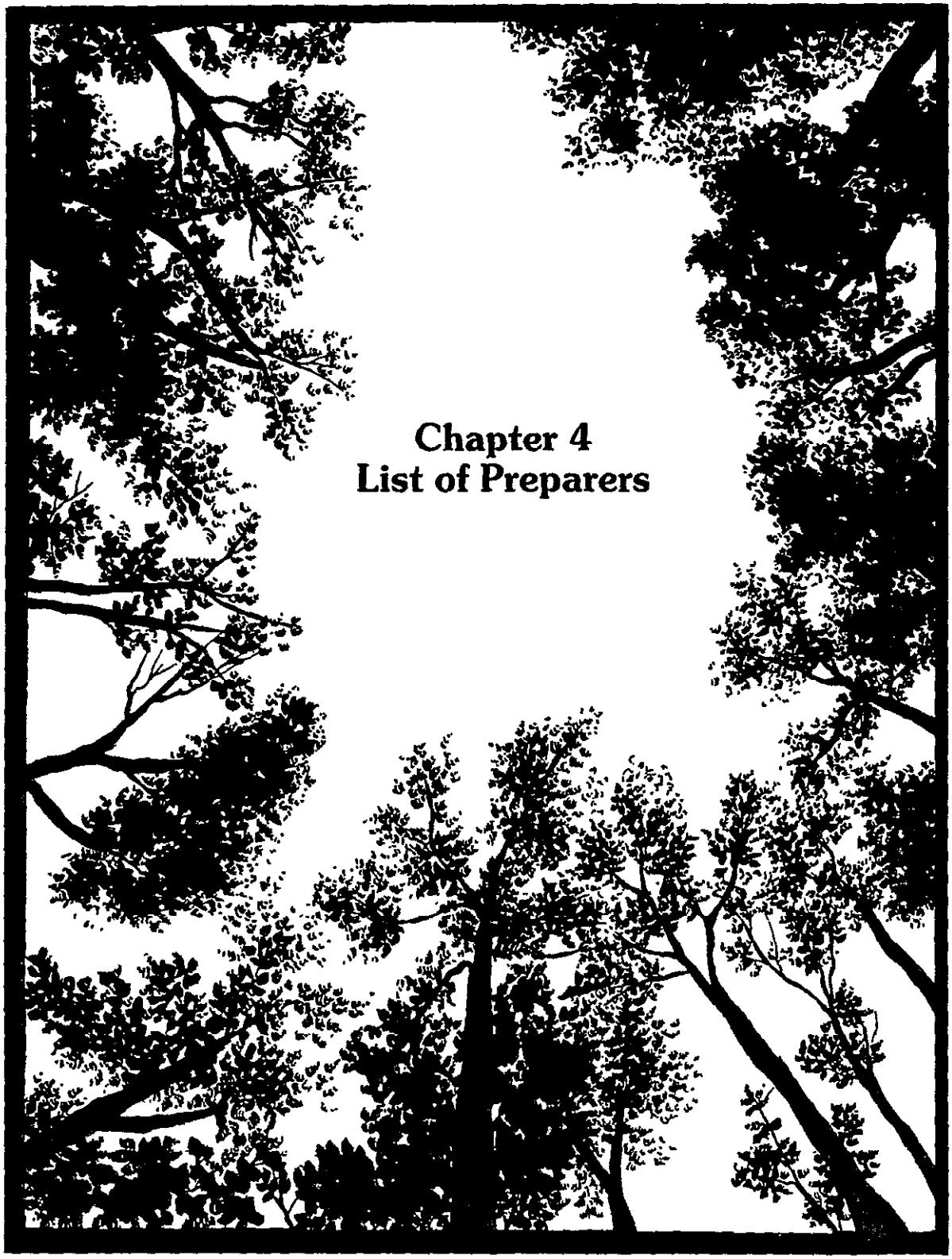
- Timber volume outputs would be foregone on lands determined as not suitable for timber harvest.

- Commodity outputs would be reduced or foregone on areas allocated to specific uses or purposes, such as developed recreation sites, old-growth habitat, and botanical areas

- Non-commodity values, including scenic resources, may be reduced or foregone on areas allocated to intensive commodity uses

- To the degree that an Alternative preserves or encourages the development of mature and old-growth habitat, opportunities to develop early successional habitat are reduced

The differences between the Alternatives are described and compared in Chapter 2



Chapter 4
List of Preparers

Chapter 4

List of Preparers

Kelly M. Clum
Landscape Architect

Kelly is responsible for Scenic Resource Management. Kelly received her B A from Syracuse University in 1988 and a M.L A from the State University of New York College of Environmental Science and Forestry. She worked on the Routt and Medicine Bow National Forests prior to becoming the Forest Landscape Architect on the Rio Grande National Forest in 1993

William Dauer
Civil Engineer

Bill is responsible for the Roads, Trails, and Facilities (Infrastructure) portion of the Forest Plan Bill graduated from the United States Military Academy in 1981 with a B S in Engineering He was an officer in the U S. Army until 1989 when he came to the Rio Grande as a civil engineer

Les Dobson
Hydrologist

Les is responsible for the analysis of air and water quality Les completed a B S. in Watershed Management in 1981 from Colorado State University. He has been a Forest Service employee since 1989 Previously he worked for the Bureau of Land Management.

Dean H. Erhard
Ecologist

Dean is responsible for the ecological analysis, Research Natural Areas, and Threatened, Endangered, or Sensitive Plant species Dean completed a B S in Range Management from the University of Montana in 1977 and added his M S in Range Ecology from Oregon State University in 1980 He began with the Forest Service in 1986 on the Rio Grande, then transferred to the Thunder Basin Grasslands, Douglas, WY, and then back to the Rio Grande in 1991

Tom Eager
Insect and Disease Specialist

Tom works out of the Gunnison Service Center in Gunnison, CO. He is responsible for the Insect and Disease analysis

Theodore "Lary" Floyd
Forest Fire Management Officer

Lary is responsible for the Fire Analysis Lary attended two years of college working towards a Wildlife Conservation major but decided to work instead His first season was in 1976 as an engine crew member on the Coconino NF in Arizona, then he became a Hotshot crew member the next season In 1978 he went back to an engine for one more season before deciding to move to the Pike-San Isabel NF in CO , for a job in timber and Stage II inventory He remained there for some time working as the timber crew leader, Assistant Fire Management Officer (AFMO) and advanced cruiser until taking the job as Forest AFMO/dispatcher for the Rio Grande NF in 1993 Since then Lary has assumed the duties of Forest FMO

Tom Harris
Writer/Editor

Tom is responsible for the readability of the Forest Plan documents He earned a B A in English in 1968 from the University of California, Berkeley He began working for the Forest Service in 1970 as a firefighter on the Klamath National Forest Tom also worked as a program analyst, writer-editor, budget analyst, and Ranger District administrative officer on the Klamath, Cleveland, and Plumas National Forests in California. He has been the writer-editor on the San Juan National Forest, in Durango, Colorado, since 1991

Steven B. Hartvigsen
Forester

Steve is responsible for the Timber Resource analysis Steve earned a B S in Forestry Management from Utah State University in 1977 His Forest Service experience began in 1974 and has centered around timber management, gained from working on six national forest in Regions 2 and 4 His primary emphasis has been timber sale preparation and administration, but duties have covered all aspects of timber management, from inventory and reconnaissance, to contract preparation and appraisals, to planting, regeneration surveys, thinning, and insect and disease assessment. Steve has been involved in the RGNF's Plan Revision process since the fall of 1993

Rick Metzger
Wildlife Biologist

Rick is responsible for the Wildlife analysis Rick earned a B S in Wildlife Management from Humbolt

State University. He began employment in the Forest Service on the HayFork RD, Shasta-Trinity NF in 1981 as the District Biologist then moved to the BLM as the Resource Area Biologist, San Juan RA, Moab District. He then came back to the Forest Service as District Biologist/Resource Staff, Paulina RD, Ochoco NF, in Oregon and in 1991 transferred to the Rio Grande NF where he is currently the Forest Biologist

Paul Minow
Forestry Technician

Paul is responsible for GIS and data base support. Paul completed a BA at Adams State College in 1982 and an MA in fine arts in 1984 also from Adams State College He worked 12 years as a seasonal on the Pike-San Isabel and Rio Grande NF before becoming a permanent employee in 1991 He has worked in recreation, fire, trails and most recently timber sale preparation Paul was detailed to the planning shop to make maps for the Plan

Debbie Pittman
Graphic Artist - Illustrator

Debbie is responsible for wildlife illustrations and other graphics in the Forest Plan A resident of the San Luis Valley since 1974, she has been employed by the Rio Grande National Forest since 1985 During this time she has been involved with a wide variety of Forest activities, and administration She has prepared graphic arts, desktop publishing, and illustration services for the Forest Service throughout this time In addition to providing graphics assistance to the Forest Service, she is presently offering this service to local city, county, and state agencies

Gerald L. Poe
Range Conservationist

Gerry is responsible for the range analysis Gerald received his B S. in Range Management from the University of Arizona in 1967. He began his Forest Service career as a range conservationist on the Tonto N F in Arizona Has been a range conservationist on the Lincoln N.F , again back to the Tonto, then to the Samuel R. McKelvie N F in Nebraska and finally to the Rio Grande N F , Del Norte Ranger District

Ron Pugh
Planning Team Leader

Ron is responsible for the preparation of the Final Environmental Impact Statement and Final Revised Land and Resource Management Plan Ron completed his BA in Landscape Architecture from California Polytechnic University in 1975 He has 20 years Forest Service experience in Idaho, Oregon,

Wyoming, Utah, and Colorado.

John J. Rawinski
Soil Scientist/Minerals Specialist

John is responsible for the Soils analysis and for the Oil and Gas Leasing analysis John completed a B S in Forestry from the University of Massachusetts in 1975, and an M.S in Forest Soils from the University of Wisconsin - Stevens Point in 1978 In 1980 he started with the Forest Service on the Bighorn NF and then in 1982 moved to the Rio Grande

Vince Spero
Archaeologist

Vince is responsible for the Heritage Resource analysis and the preparation of the Range of Natural Variability Literature review. Vince earned a B A in Anthropology from Adams State College in 1975 followed by attendance of graduate school at the University of Northern Colorado in 1977. Vince started on the Rio Grande as an Archaeological Technician where he worked until 1987 Currently Vince is the Forest Archaeologist and Heritage Resource Program Manager on the Rio Grande NF

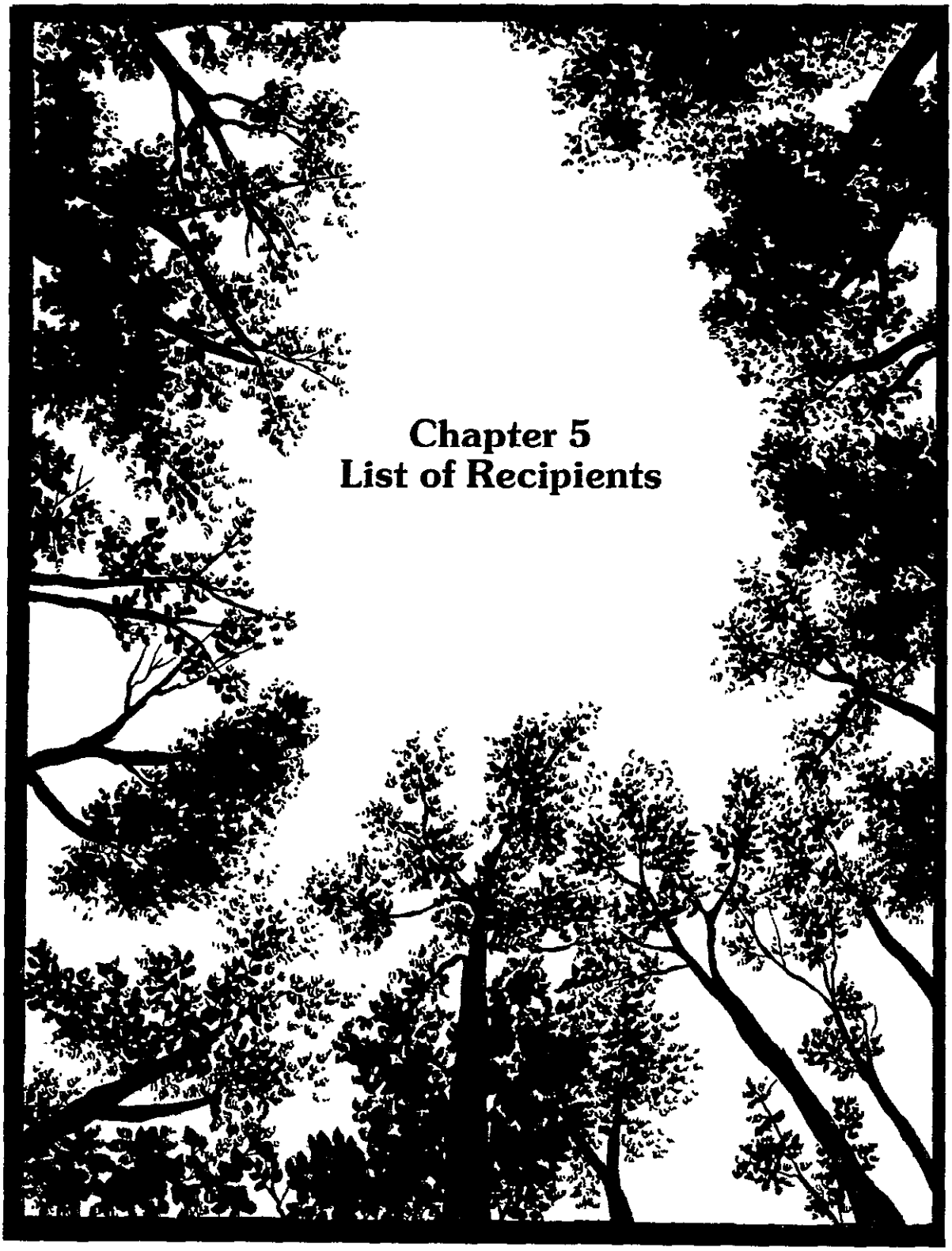
R. Greg Thompson
Recreation Forester

Greg is responsible for the Recreation, Wilderness, and Wild and Scenic Rivers analysis Greg completed his B S in Forestry at the University of Montana He has been an employee of the Forest Service for 23 years Greg has worked in a number of positions including the Regional Office, and on the Carson and White River National Forests From 1988 to present he has been the RGNF's program, budget and planning coordinator for Recreation, CIP, Wilderness, winter sports, special uses, and accessibility programs

Bob Tribble
Operations Research Analyst

Bob is responsible for the Social and Economic analysis, GIS, FORPLAN, and analytical support Bob earned a BS in Natural Resource Management in 1981 and his MS in Resource Planning in 1986 from Colorado State University Previously he worked as an analyst and planner in Oregon and Colorado

The list of preparers is limited to those people who were actually involved in the preparation of the Draft and Final Environmental Impact Statements and the Draft and Final Revised Land and Resource Management Plan The preparation of these documents could not have been completed without the enthusiastic support and assistance of every employee on the Rio Grande National Forest and our colleagues in the Regional Office in Golden, Colorado



Chapter 5
List of Recipients

Chapter 5

List of Recipients

The following is a list of people on the Forest Plan mailing list All these people received materials for the Draft EIS Following this section, there is a list of people receiving FEIS materials

FIRST NAME	LAST NAME	ORGANIZATION
		ACE INN
		ADAMS STATE COLLEGE LIBRARY
		ADVENTURE SPECIALISTS
		ALAMOSA CHAMBER OF COMMERCE
		ALAMOSA COUNTY COMMISSIONERS
		ALAMOSA INN
		ALCON CONSTRUCTION INC
		ALEX ABEYTA TRUCKING
		AMALIA LUMBER COMPANY
		AMERICAN BEAUTY COLLEGE
		AMERICAN WILDLANDS
		ANCIENT FOREST RESCUE
		ARAPAHO & ROOSEVELT NATIONAL FORESTS
		ASCS - RIO GRANDE COUNTY
		B A R CATTLE COMPANY
		BACA TOWNHOUSE ASSOCIATION
		BATES LUMBER COMPANY
		BIG R MANUFACTURING & DISTRIBUTING
FOREST PLANNER		BIGHORN NATIONAL FOREST
FOREST PLANNER		BLACK HILLS NATIONAL FOREST
		BLEA'S UPHOLSTERY
		BRASS LANTERN
		BUREAU OF LAND MANAGEMENT
		BUREAU OF LAND MANAGEMENT
ALBUQUERQUE DISTRICT		BUREAU OF LAND MANAGEMENT
		BUTLER FOREST PRODUCTS
		CANJILON RANGER DISTRICT
		CARSON NATIONAL FOREST
		CENTER POST DISPATCH
		CENTRAL ROCKIES WILDERNESS SOCIETY
		CESARIO ASPHALT PAVING
		CHAFFEE COUNTY COMMISSIONERS
		CIELO VISTA BEAUTY SHOP
		COLORADO COLLEGE AT BACA
		COLORADO DEPT OF ADMINISTRATION
		COLORADO DIVISION OF WILDLIFE
		COLORADO PACIFIC INDUSTRIES
		COLORADO PAINT & BODY WORKS
		COLORADO POTATO ADMIN COMMITTEE
		COLORADO WILDLIFE COMMISSION
		CONEJOS CANYON OUTFITTERS
		CONEJOS COUNTY CITIZEN
		CONEJOS COUNTY COMMISSIONERS
		CONSUELO'S
		CONTRACT LOGGING

	COSTILLA COUNTY COMMISSIONERS
	COTTON CREEK RANCHES
	COZART'S SERVICE
	CREEDE CHAMBER OF COMMERCE
	CREEDE MOUNTAIN RUN
	CRUSE UPHOLSTERY CO
	CU ENVIRONMENTAL CENTER
	CU WILDERNESS STUDY GROUP
	CUNNINGHAM CATTLE COMPANY
	DAVEY FAMILY PARTNERSHIP
	DEHERRERA AUTO SERVICE
	DEL NORTE CHAMBER OF COMMERCE
	DOCHTER LUMBER CO
	DUKE CITY LUMBER
	DUNN RANCHES INC
	EL CHARRO CAFE
	ELKHORN RANCH INC
	EMMA'S HACIENDA
	ENERGY MINERALS CORPORATION
	FERNANDEZ CHILI CO, INC
	FILLMORE, ET AL
	FUCHS RANCHES INC
	GARCIA LAW OFFICES
FOREST PLANNER	GM-UNC-GUNN NATIONAL FORESTS
	HISPANIC RADIO NETWORK, INC.
	HOMESTAKE MINING COMPANY
	HOPI TRIBAL COUNCIL
	IZAAK WALTON LEAGUE OF AMERICA
	JIM BROWN AND SONS
	JOHN SHAWCROFT RANCHES
	JONES ENVIRONMENTAL CONSULTANTS
	JONES LUMBER COMPANY
	JONES LUMBER COMPANY
	KEEPER ENTERPRISES
	KERAKIS SNOCAT SKIING & TOURING
	KGIW/KALQ
	KRZA-FM
	KSLV RADIO
	KSPK RADIO
	LA CASITA MEXICAN RESAURANT
	LAKE SUPERIOR CENTER
	LARA'S SOFTSPOKEN RESTAURANT
	LOBO OUTFITTERS
	LOPEZ PLUMBING & HEATING
	LOS HERMANOS LUCEROS
	LUCERO'S DENTAL ARTS
	LUJAN HI TECH ROOFING
	M & S AUTO REPAIR
	MARTIN & ASSOCIATES
	MARTINEZ FARMS
	MARTINEZ LOGGING
	MASON, BRUCE AND GIGARD, INC
	MATTHEWS TIMBER COMPANY
FOREST PLANNER	MEDICINE BOW NATIONAL FOREST
	MENKE ABSTRACT COMPANY
	METROZ PARK AND LAKE COMPANY
	MILE-HI JEEP CLUB
	MINERAL COUNTY COMMISSIONERS
	MINERAL COUNTY MINER
	MONDRAGON'S SEPTIC TANK SERVICE
	MONTE VISTA CHAMBER OF COMMERCE
	MOTORCYCLE TRAIL RIDING ASSOCIATION
	MOTOROLA COMMUNICATIONS
	MOUNT BLANCA VIEW APARTMENTS
	MOVIE MANOR MOTEL
	N SAGUACHE CTY FIRE PROTECTION DIST
	NATIONAL AUDUBON SOCIETY
	NATIONAL WILDLIFE FEDERATION
	NATURAL RESOURCES CONSERVATION SERVICE

FOREST PLANNER	NEBRASKA NATIONAL FOREST
	NEW MEXICO TROUT
	NORSKI RACING CLUB
	O & V PRINTING
	OFF ISLAND RANCH INC
CO HISTORICAL SOCIETY	OFFICE OF ARCHAEOLOGY & HIST. PRES.
	OM'S BARBER SHOP
	ORLANDO ABEYTA TRUCKING
	OSCAR'S MEXICAN IMPORTS
	OTTO D. ESPINOZA & SONS INC
	OTTO D. ESPINOZA AND SONS
	PAGOSA RANGER DISTRICT
	PAGOSA SPGS COUNTY COMMISSIONERS
	PANCHO'S FLOOR SERVICE
	PANCHOS CAR COLLECTION
	PAPERWORKS
	PARK CREEK MANAGEMENT COMPANY
	PEGASUS HELICOPTERS INC
FOREST PLANNER	PIKE & SAN ISABEL NATIONAL FORESTS
	PINE VALLEY LUMBER COMPANY
	PROJECTS UNLIMITED
	PUBLIC SERVICE COMPANY
GOVERNOR	PUEBLO OF ACOMA
GOVERNOR	PUEBLO OF COCHITI
GOVERNOR	PUEBLO OF ISLETA
GOVERNOR	PUEBLO OF JEMEZ
GOVERNOR	PUEBLO OF LAGUNA
GOVERNOR	PUEBLO OF NAMBE
GOVERNOR	PUEBLO OF PICURIS
GOVERNOR	PUEBLO OF POJOAQUE
GOVERNOR	PUEBLO OF SAN FELIPE
GOVERNOR	PUEBLO OF SAN ILDEFONSO
GOVERNOR	PUEBLO OF SAN JUAN
GOVERNOR	PUEBLO OF SANDIA
GOVERNOR	PUEBLO OF SANTA ANA
GOVERNOR	PUEBLO OF SANTA CLARA
GOVERNOR	PUEBLO OF SANTA DOMINGO
GOVERNOR	PUEBLO OF TAOS
GOVERNOR	PUEBLO OF TESUQUE
GOVERNOR	PUEBLO OF ZIA
GOVERNOR	PUEBLO OF ZUNI
	QUINLAN RANCHES INC
	RAINBOW GROCERY
	REDISCOVERY OF FOUR CORNERS
	RIO GRANDE COUNTY COMMISSIONERS
	ROMERO FUNERAL HOME
	ROUTT NATIONAL FOREST
	SAFEWAY
	SAGUACHE COUNTY COMMISSIONERS
	SALIDA RANGER DISTRICT
	SAN CARLOS RANGER DISTRICT
	SAN JUAN NATIONAL FOREST
	SANGRE DE CRISTO MOUNTAIN COUNCIL
	SANTA MARIA RESERVOIR COMPANY
FOREST PLANNER	SHOSHONE NATIONAL FOREST
	SLV DEVELOPMENT RESOURCES GROUP
	SLV IRRIGATION DISTRICT
	SOUTH FORK CHAMBER OF COMMERCE
	SPORT FISHING INSTITUTE
	SPORTS FAMILY HAIR CLINIC
	STONE QUARRY PIZZA
	SWEETMAN ENTERPRISES
	TAYLOR/CEBOLLA RANGER DISTRICT
	THE CRESTONE EAGLE
	THE DEL NORTE PROSPECTOR
	THE SAGUACHE CRESCENT
	THE SOUTH FORK TINES
	THE VALLEY COURIER
	TIMBERLINE GARDENS

		TOIYABE INSTITUTE
		TOWN HALL
		TRES PIEDRAS RANGER DISTRICT
		UNION MINES INC
		UNITED WOOD PRODUCTS
ECOLOGICAL SERVICES		US FISH & WILDLIFE
		US WEST COMMUNICATIONS
		USDA-APHIS-ANIMAL DAMAGE CONTROL
		USFS NORTHERN REGION
		V-HEART RANCH
		VALLE GRANDE INC
		VALLEY COMMUNICATIONS
		VENDOLA PLUMBING & HEATING
		VIGIL ART GALLERY
		VIOLA BROTHERS LUMBER
		VIRGINIA 4-WD ASSN
		W.H. LIQUOR
		W.H. MCNEIL ESTATE
		WARNER WOODS COMPANY
		WESTERN GAS SUPPLY COMPANY
		WESTERN STATES PUBLIC LAND COALITION
		WET MOUNTAIN LOGGING
		WHITE ACE HARDWARE
FOREST PLANNER		WHITE RIVER NATIONAL FOREST
		WINGING IT
		WOLF CREEK SKI DEVELOPMENT
GOVERNOR		YSLETA DEL SUR PUEBLO
ADAM	ACOSTA	
CHARLES	ADAMS	DAVID BROWNSTEAD DESIGNS
CONRAD	ALBERT	COLORADO DIVISION OF WILDLIFE
NANCY	ALBRIGHT	HIKE ABOUTS
RON	ALCORN	
DAN	ALDRICH	
CHERYL	ALEXANDER	
ROBERT	ALEXANDER	
JOE	ALEXANDER	*101 LAND AND CATTLE COMPANY*
GLENN	ALEXANDER	LAZY J H CATTLE RANCH
KELSEY	ALEXANDER,	
STELLA	ALFARO	
CRAIG	ALLEN	
TOBE LEE	ALLEN	DBA HALF MOON PASS
PERRY	ALSPAUGH	
JOHN	ALVES	COLORADO DIVISION OF WILDLIFE
GEORGE	AMEEL	
CARLETEN & ELIZABETH	ANDERSON	
NORTON	ANDERSON	
DALE & YVONNE	ANDERSON	ANDERSON'S GUIDE SERVICE
LENORE	ANDERSON	COLORADO OUTWARD BOUND SCHOOL
HARRY	ANDREWS	
LARRY	ANDREWS	
TOM	*ANDREWS*	*ROCKY MTN EXPERIMENT STATION*
JORGE	ANDROMIDAS	COLORADO GRIZZLY PROJECT
DAVID	ANGELO	MOUNTAIN LUMBER PRODUCTS
JERRY	APKER	COLORADO DIVISION OF WILDLIFE
HARRY	APODACA	
RUSS	ARAGON	
TINA	ARAPKILES	SIERRA CLUB REGIONAL OFFICE
CHRISTINE	ARDEN	
GILBERT	ARELLANO	
BOB & JUDY	ARMAGAST	
MARY ANN & BUNKY	ARNETT	
DANIEL	ARNOLD	
DAVID	ASKEW	
DAN	AUBUCHON	HIGH PARK OUTFITTERS
GENE & CAROL	AUGUSTO	
LAVONNE	AXFORD,	COLORADO AUDUBON SOCIETY
JERRY	BABBITT	CITIZENS FOR ENVIRONMENTAL QUALITY
STEVE	BAER	DIVISION OF WATER RESOURCES
BLAINE & ROBERTA	BAGWELL	

DOUG	BAGWELL	
LESTER	BAGWELL	
STANCIL & BERTIE	BAGWELL	
TIM & ROBERTA	BAGWELL	
TOM & BARBARA	BAGWELL	
BRUCE	BAIZEL	ROUND RIVER CONSERVATION STUDIES
EDWIN	BAKER	
TONY & BEVERLY	BAKER	
WALTER	BAKER	
GUY	BAKKE	
LARRY	BALDONADO	
CHARLES	BALDWIN	
LEE	BARKOW	BUREAU OF LAND MANAGEMENT
JIM	BASHAM,	
JOSEPHINE & MARIO	BASSI	
FRED	BAUDER	
JOHN & CLYDENA	BAUGH	
GARTH	BAXTER	
JOHN	BAXTER	MOUNTAIN VALLEY LUMBER INC
C.A.	BEAL	
JIM	BEARSS	
PAUL	BEAUDEAN	BIG HORN 4 X 4 CLUB
RICHARD	BECKER	TOWN OF BONANZA
VERNON	BEEBE	
RICHARD	BEGAY	NAVAJO NATION HISTORIC PRES. DEPT.
BILL	BEISNER	
BARBARA	BENNETT	
L.A.	BENNETT	
STEVE	BENNETT	STONE FOREST INDUSTRIES
SUZANNE	BENTON	
JOANIE	BERDE	CARSON FOREST WATCH
STEVE	BERLINGER	ALAMOSA NATIONAL WILDLIFE REFUGE
GARY & PATRICIA	BERNDT	
BILL	BERTRAM	
FERRIS	BERVIG,	CITY HALL
S.J.	BETHEL	
BILL	BEVINS	AMERICAN WHITE WATER
ERNEST	BIENVIDEZ	
JOHN	BIGLEY	
VIRGINIA	BINKLEY	
EDWARD	BINKLEY	DIAMOND S RANCH
ROCKY & SHANE	BIRDSEY	
NORMAN	BIRTCHER	BLUE MESA FOREST PRODUCTS
JEAN	BLACKWOOD	
ROBERT	BLAIR	
BRUCE	BLANCHARD,	DEPT OF THE INTERIOR, ENV PROJECT REV.
BILL	BLANKENSHIP	
ANDREA	BLANSCET	
GLADIS	BLANSCET	
GLENN	BLAUVELT	
BRANDON	BLEVENS	
TINA	BLUEFIELD	
CAROL PINSKY	BLUMENTHAL	
EDITH	BOATRIGHT	
JIM	BOCK	
ED	BOOTH	BOOTH RANCHES
KATE	BOOTH-DOYLE	LA GARITA LLAMAS
ROBERT	BOPPE	
DR. JAMES	BOSSE	SKYLINE VISION CLINIC
MIKE	BOSSETT	
M.N.	BOSTICK	
JACK	BOUTWELL	
JOHN	BOWANNIE	PUEBLO OF COCHITI
CARRIE	BOWERS	AMERICAN SKI FEDERATION
RUSSELL	BOX, SR	
GLEN	BOZMAN	
BOYD	BRADY	
JIM	BRAIDEN	BRAIDEN CATTLE COMPANY
CHRISTY	BRANDT	

ROBERT	BRASS	
R.J.	BRAZIL	
JAMES	BRIGGS	
MATT	BRINK	
STEVE	BROCK	
BETH	BROCKHAUS	
RICHARD	BROIDA	
ANDREW	BROOKS	
JIM	BROOKS	
PAUL	BROUHA,	AMERICAN FISHERIES SOCIETY
ANN	BROWN	
CHRIS	BROWN	
DIANNA & RICKY	BROWN	
JERRY	BROWN	
LARRY	BROWN	
MARK	BROWN	
DAVID	BROWN	AMOCO PRODUCTION COMPANY
HANK	BROWN	UNITED STATES SENATE
HAL	BUCHANAN	
DREW	BUDNER	
TIM	BUENZLI	ROCKY MOUNTAIN SAWMILL
PAULA	BULLINGTON	
EVERETT	BURCH	
LEONARD	BURCH	SOUTHERN UTE TRIBE
C.D.	BURGARD	
LORI	BURKE	
BILL	BURKE	4-WHEELING AMERICA
ROB	BURNETT	
RICHARD	BURNKRANT	WESTERN AREA POWER ADMINISTRATION
JODY	BURNS	
WILLIAM	BURRELL	HERMIT LAKES REC. INC.
JOE	BURROS	
JAMES	BUSCHER	
RUSS	BUTCHER,	
PAUL	BUTLER	
MAX & BETTY	CALDWELL	
G.L.	CAMPBELL	
TERESA & J.D.	CAMPBELL	
BEN NIGHTHORSE	CAMPBELL	UNITED STATES SENATE
CHRISTINE	CANALY	
HENRY	CAREY	FOREST TRUST
ANDREA	CARLIN	
JASPER	CARLTON	BIODIVERSITY LEGAL FOUNDATION
DON	CARPENTER	
EDGAR & EMILIANA	CARPENTER	
GLEN & GREG	CARPENTER	
RON	CARPENTER	
ALAN	CARPENTER	NATURE CONSERVANCY
KEN & BARBARA	CARPENTER	PEOPLE FOR THE WEST
BILL	CARR	
TOMMY & SHARON	CARR	
RAYE	CARRINGTON	
DR. LOUIS	CARTER	
MICHAEL	CARTER	COLORADO BIRD OBSERVATORY
JOHN	CASSELLA	
TOM	CASSIDY	AMERICAN RIVERS INC
JACK	CASSIDY	DBA ALPINE OUTFITTERS
LES	CAUGHMAN	CAUGHMAN LUMBER COMPANY
SHIRLEY	CAUTHEN	DEPT. OF NATURAL RESOURCES
JOHN & PAT	CAVERLY	
VICTORIA GROVER	CAVIT	
DON	CAYLOR	
HENRY	CHAFIN	
RICHARD	CHAMBERLAIN,	PUBLIC SERVICE COMPANY OF COLORADO
DEAN	CHAMBERS	
RONALD	CHAPMAN	
BETSY	CHAPOOSE,	UINTA & OURAY INDIAN TRIBES
JEFF	CHARLEBOIS	
HUGO	CHAVEZ	

SAMUEL	CHAVEZ	C/O LUCY CHAVEZ
M.A	CHAVEZ, DDS	
DAVID	CHEEK	
WENDELL	CHINO	MESCALERO APACHE TRIBE
DAN	CHRISTENSEN	
LORA	CHRISTENSEN	
BRADLEY & BYRON & NANCY	CHRISTENSEN	SLV WOOLGROWERS ASSN
RICHARD	CHRISTIAN	ATLANTIC STATES MARINA FISH COMM
CHUCK	CICHOWITZ	NOAH'S ARK
JOE	CISNEROS	
MARY ANN	CIUFFINI	
DON & CARLYN	CLARK	
PAUL	CLARK	
JOANIE	CLARK	C/O HIGH COUNTRY CITIZENS ALLIANCE
BOB	CLARK	CDOW, SW REGIONAL OFFICE
MARY HADA	CLARKE	
FRANK	CLINARD, JR	
NEIL	CLOUD,	SOUTERN UTE INDIAN TRIBE
HERIN	CLUTTER	
YVETTE	CLUTTER	
JACK	COCHRAN	
CALLIE	COCHRAN-HAGER	MINERAL COUNTY MINER
JIM & PAULINE	COLEMAN	COLEMAN RNACHES INC
DOROTHY BEA	COLLERETTE	
J B.	COLLERETTE	BROADACRES RANCH INC
C.K.	COLLINS	
DAVID	COLLINS	
JOHN	COLLINS	
GREG & DELEN	COLN	MOUNTAIN MAN TOURS
JIM	COLTHARP	
ALVIN	COLVILLE	
DAVID	COLVILLE	
RALPH	CONKEY	
WILLIAM	CONKLIN	
ELVIE	CONLEY	
MARK	CONLEY	
RON	CONNER	R & R LOGGING
CONNIE	CONVERY	
RICK	COOK	
ADENA	COOK	BLUE RIBBON COALITION INC
ROBERT	COOK	DEPT OF FISHERIES & WILDLIFE BIOLOGY
DAVID	COOPER	
PAT	COOPER	
BYRON	CORFMAN	
DALE	CORNUM	
MILFRED	COSEN	AIM TECH
SHIRL	CROSMAN	FOREST TRUST
EDWARD, LONELL & LEON	CROWTHER	
RAYMOND & VERLA	CROWTHER	
ED	CROWTHER	JIM CREEK PERMITTEES
DONOVAN	CULLINGS	
VERL	CURTIS	
JAMES	CURTIS	FLYING X CATTLE COMPANY INC
ART	CUTHAIR	
GRETCHEN	CUTTS	COLORADO AUDUBON COUNCIL
ALAN	CZARNOWSKY	
PAT	D'ANDREA	
JOHN	DABNEY	
JACK & DIANA	DALE	
DALE	DANIEL	
CAROL	DANIELSON	
TOM	DARE	DARE LUMBER COMPANY
KIRT	DARNER	DBA BUCK STOP OUTFITTERS
R EARL	DAVEY	
RICHARD	DAVIE	
ROSS & PAT	DAVIE JR	
DANNY	DAVIS	
LOUISE	DAVIS	
MARVIN	DAVIS	

PAUL	DAVIS	
PAUL	DAVIS	
TOM	DAVIS	
BETTE	DEACON	
MARGE	DEACON	
HELEN	DEAN	PEOPLE FOR THE WEST-SLV CHAPTER
MARYANN	DEBOER	
CAROLYN	DEFORD	
GALEN & BEVERLY	DEGANI	
MARK	DEHAVEN	ERO RESOURCES
CARRIE	DEHERRERA	
RICHARD	DEHERRERA	
L.C.	DELAMBRE	7112 PAN AMERICAN FWY NE
KEN	DELLENBAUGH	
RONNIE	DEMASTERS	
JOE	DENNER	
KIZZEN	DENNETT	
GINETTE "GIGI"	DENNIS	STATE SENATE
DICK	DEPRIEST	
FRAN	DETURE	
ANDY	DETVAY	
SUZANNE	DEVORE	
DENNIS	DEVRIES	
EILEEN	DEY	MERIDIAN OIL INC
GARY	DICKEY	
OBBIE & WILLA LEE	DICKEY	
CAROL	DIDDE,	INDUSTRIAL BUILDING CORPORATION
WILLIAM	DIEKROEGER	MW RANCH
BILLY JOE	DILLEY	MULESHOE SPORTSMAN GUIDE SERVICE
DWANE	DILLON	
HOBIE	DIXON	
STUART	DODGE JR	STUART DODGE ESTATE
MAX	DODSON	ENVIRONMENTAL PROTECTION AGENCY
RUTH & GEORGE	DOMINICK III	
TED & DEBBIE	DOOLEY	
MICKEY	DOUGLAS	
CHUCK	DOVE,	MYERS CREEK GRAZING ASSOCIATION
HELEN	DOWNING	
RICHARD	DOYON	
RICHARD	DRAKE	
KELLY	DRAKE	COLORADO WILDLIFE FEDERATION
GERALD	DREWS	
GEORGE	DUDA	DUKE CITY LUMBER COMPANY
JOSEPH	DUDA,	STONE FOREST INDUSTRIES
ROBERT & CAROL LEE	DUGAN	
MICHAEL	DUNCAN	
CELESTINE	DUNCAN	WEED MANAGEMENT SERVICES
DANIEL	DURAN	
PHILIP	EARING	
MYRON	ECKBERG	
HAROLD	ECKLEY	
LINDSEY	EDWARDS	
KEITH	EDWARDS	SAGUACHE COUNTY COMMISSIONERS
SALLY	EDWARDS	SEI
GEORGE	EHNES	
WALLACE	ELAN	
B.	ELDER	
DAVE	ELDREDGE	
MICHAEL	ELKRIVER	UTE MOUNTAIN UTE TRIBAL COUNCIL
CHARLES	ELLIOTT	
K.A.	ELLISON	
MARY	ELLISON	
KIRK	ELLISON	LAZY DOUBLE FF OUTFITTERS
ERIC & KATHERINE	ELLITHORPE	
MARK	ELSNER	
PHILLIP	EMERICK	
LARRY	EMERY	
MARK	EMMER	
ROY	ENTER	FIRST PEGASUS CORP

LEWIS	ENTZ,	
ALAN	EOS	MOUNTAIN LUMBER CO
MICHAEL	ESPINOZA	
ROBERT	EST	
ELIZABETH	ESTILL,	ROCKY MOUNTAIN REGIONAL OFFICE
ROBERT	EVANS	
HARVIE	EVANS	DBA HALF MOON PASS
JOHN	FAGGARD	
CHARLES	FAIRCHILD	
WILLIAM	FARLEY	
DONALD	FARNHAM	
DOUG	FARRIS	
FLOYD	FAUCETTE	
ELIZABETH	FEAZEL	
BOB & BETTY	FELMLEE	
RICHARD	FINK	
JAMES	FIORETTI	
TOM	FLETCHER,	HIGH VALLEY AMATEUR RADIO, INC
JIM	FLYN	RED MOUNTAIN OUTFITTERS
MICHAEL	FOGAS	
DOUG	FOLLMAN	
WILL	FOREMAN	
DAVE	FOSS	PUBLIC LANDS ACCESS COALITION
JENNIFER	FOWLER-PROBST	NM ECOLOGICAL SERVICES FIELD OFFICE
LARRY	FRANK	
WALLACE	FRANKE	
JOHN	FRAZIER	
SAMMY	FRAZIER	
HUGH & ELEANOR	FREEBAIRN	
CARL	FRENCH	
FRED	FUCHS	C/O MICHAEL FUCHS
WALTER	FULLWOOD, CPA	
ROSENDO	GACHUPIN	PUEBLO OF JEMEZ
FELIX	GALLEGOS	
GEORGE	GALLEGOS	
RICHARD	GALLEGOS	
JERRY	GALLEGOS	MONTE VISTA JOB SERVICE
ELIZABETH	GALLES	
PETER	GALVIN	GREATER GILA BIODIVERSITY PROJECT
KENNETH	GAMAUF	
ED & RON	GARCIA	
EDDIE	GARCIA	
KEVIN	GARCIA	
LEONARD	GARCIA	
PETE	GARCIA	
TOM	GARCIA	
OTILDA	GARCIA	GARCIA RANCH
MARTHA	GARCIA	RAMAH NAVAJO CHAPTER
REGINALDO & OTILDA	GARCIA JR	
GILBERTO	GARZA	
BERNARD	GARZA	US FISH & WILDLIFE SERVICE
GUDY	GASKILL	THE COLORADO TRAIL FOUNDATION
GARY	GASTON	PEARL LAKES TROUT CLUB INC
D. MARK	GATES	
GERALD	GATLIFF	
RICHARD	GAWRON	
DONALD	GAYLOR	
KURT OR KARL	GEIGER	GEIGER BROS LOGGING
ED	GELLENBAUGH	
PAM	GERSHEN	
CAROL ANN	GETZ	
MELVIN	GETZ	
ROBERT	GETZ	
ROBERT	GETZ	
CHRIS	GETZ	GETZ RANCH INC.
FLOYD	GETZ	SLV WATER CONSERVANCY DISTRICT
ROBERT	GETZ	TRAIL SKILLS, INC
HAROLD	GIBSON	
JOHN	GIGGENBACH	

JOE & PAT	GILLACH	
MARK	GILLELAND	
MICHAEL	GILLIS	MEGA-BUCK OUTFITTERS
JOHN	GINTERT	
BOB	GJELLUM	
DON	GLEN	
JUAN	GOMEZ	
BEN	GOMEZ,	
MARTIN	GONZALES	
MATTHEW	GONZALES	
TONY	GONZALES	
QUETA	GONZALEZ	
JEFF	GOOD	
KAIEB	GORKERY	NATIONAL RESOURCES DEFENSE COUNCIL
BRETT	GOSNEY	
JOHN	GOSSAGE	
DON	GRAHAM	
GLENN	GRAHAM	
JIM	GREEN	
CHRIS	GREENHUT	
JACKIE	GRIFFIN	
JERRY	GRIFFIN	
DOUG	GRINBERGS	
GEORGE	GROSSMAN	
BERTHA	GROVE	
LEE	GRUNAU	COLORADO NATURAL HERITAGE PROGRAM
NARCISO	GUADIANA	
ANDREW	GURULE	
GARRY	GUSTAFSON	
ALICE	GUSTIN	LAND USE CHRONICLE
JERRE & CONNIE	GUTHALS	
IVAN	GYLLING	
JOHN	HAEFELI	
KENT	HAGER	MINERAL CTY LAND USE ADMINISTRATOR
J.W.	HAGER	PTARMIGAN MDWS HOMEOWNERS ASSN
WENDELL	HALEY	PTARMIGAN MEADOWS OWNERS ASSN
CECIL	HALL	
ROBERT	HALL	
SID	HALL	
DENNIS	HALL	GUNNISON BASIN BIODVIERSITY PROJECT
ROD & TRUDY	HALVERSON	
HUGH	HAMILTON	
MARY	HAMILTON	
SHIRLEY	HAMILTON	
JOHN	HAMILTON	HEBO CORPORATION
W.W.	HAMILTON, ET AL	
ROBERT	HAMMER	
BURTON	HANBURY	
ANDY	HANSCOM	
JOHN	HARDESTY	
ED	HARGRAVES	UPPER RIO GRANDE FISH & GAME ASSN
PAUL	HARPER	DUKE CITY LUMBER
JAMES	HARRINGTON	
TED	HART	BLUE MESA 4-WHEELERS
BUTCH & PATTY	HAUGHT	
DON & GENIE	HAWKINS	
VAN	HAYNES	
TERRY	HAYNIE	
DECKER	HAYNIE	CONEJOS RIVER STOCK ASSN
PERRY	HAZARD	HAZARD RANCH PARTNERSHIP
E.J.	HAZARD,	COCHETOPA TELEPHONE USERS ASSN
WALTER	HEADY	CONEJOS RIVER OUTFITTERS
RON	HEATHINGTON	
LARRY	HECK,	PASS PATROL INC
NORMAN	HECKAMAN	
LONNIE & DUSTIN	HECKATHORN	
WALTER	HECOX	COLORADO COLLEGE- ECON DEPT
DOUG	HEIKEN	ASSN OF FS EMPLOYEES FOR ENV ETHICS
ANNE	HEISSENBUTTEL,	AMERICAN FOREST & PAPER ASSN

CAROL	HEISTER,	NATURAL RESOURCES RESEARCH LIBRARY
CLIVE	HELLER	BOOT HILL ENDURO
JAMES	HENA	ALL INDIAN PUEBLO COUNCIL, INC.
LEONARD	HENDERSON	
MACK	HENSON	FUN VALLEY
PAUL	HERMAN	SLV REGIONAL MEDICAL CENTER
NATHAN	HERTZOG	
NATHAN	HERTZOG	
WILLIAM	HESS	
N.	HESTER	ALBUQUERQUE JOURNAL
ALVA	HIBBS	
T.L.	HICKERSON,	COTTON CREEK WATER COMPANY
LOWELL	HICKS	POWDER CONNECTION
TIM	HIEBERT	MW RANCH, SOUTH UNIT
TERRY	HILLIN	COLORADO SEED CO.
ROD	HINES	
GLEN	HINSHAW	COLORADO DIVISION OF WILDLIFE
RAY	HISTIA	PUEBLO OF ACOMA
BILL	HOB	
HAROLD	HOEGBERG,	PEOPLE FOR THE WEST
TIM	HOGAN	
GAIL	HOLBROOK	
W A.	HOLCOMB	
THOMAS	HOLLAND	
REID	HOLLO	DBA REID HOLLO GUIDES & OUTFITTERS
ROD	HOLLOWAY	
JEFF	HOLMBERG	
PENNY	HOLMES	
BILL	HOLT	HEART OF THE ROCKIES SNOWMOBILE CLUB
ROBERT	HOMSHER	SKI HI RANCH
LYLE	HOOD	
ROY	HOOD	TRAILRIDGE RUNNERS INC
FRED	HOSSELKUS	
GORDON & BERTIE	HOSSELKUS	
HARMON	HOSTETTER	
WALTER	HOTCHKISS	
HANK	HOTZE	GUNNISON RIVER EXPEDITIONS
MIKE & MAGGIE	HOUSTON-SMITH	
DONALD & CARLA	HOWARD	
LARRY & KATHY	HOWE-KERR	
RON	HOWELL	
WILLIAM	HOWELL	
MARTHA	HUFFMAN	
DAVID	HUFMAN	
GLEN	HUFMAN, JR.	
WILLIAM	HUGHES	COLORADO ASSN OF 4-WD CLUBS INC
WILLIAM	HUGHES	GRAMPS FIELD
GEORGE	HUGHES	WETHERILL RANCH
ALAN	HULL	
JAMES	HUME	
ROBERT	HUME	
PERRY	HUNNICUTT	
DENNIS	HUNT	ARCHULETA COUNTY COMMISSIONERS
WILSON	HURD	
ROBERT	HURD	HINSDALE COUNTY COMMISSIONERS
MEL	HURD	HURD LOGGING
CHRIS	HUTCHINSON	UNCOMPAHGRE OUTFITTERS, INC
JENNIE	INGE	
BLAKE	INGRAHAM	
LLOYD	IRLAND	THE IRLAND GROUP
BOB	IRVINE	COLORADO STATE FOREST SERVICE
MIKE	ISELE	DIVIDE TIMBER
DAVID	ISSACS	
JACK	JACKS	
JAY & ALLAN	JACKSON	
LYNNA	JACKSON	
WILLIAM	JACKSON	
ANDRIA	JACOB	
JERRY	JACOB	PIC TECHNOLOGIES, INC.

DOUG	JARRETT	
QUENTIN	JEFFERSON	
E.I.	JENCSOK	COLORADO WATER CONSERVATION BOARD
ED	JENKINS	BEAVER LOG MILLS
LEIGH	JENKINS,	CULTURAL PRESERVATION OFFICE
ROBERT	JENKINS, JR	
LEONARD	JENSEN	
LARRY	JOHN	
ART	JOHNSON	
BILL & JOHN	JOHNSON	
MELVIN & LOIS	JOHNSON	
MIKE	JOHNSON	
R.C. & S.M.	JOHNSON	
SWEDE	JOHNSON	
JEFF	JOHNSON	COLORADO DIVISION OF WILDLIFE
DAN	JOHNSON	FT LEWIS ENVIRONMENTAL CENTER
DAVID	JOHNSON,	SIERRA CLUB, SANGRE DE CRISTO GROUP
RICHARD	JOHNSTON	
BRUCE & BETTY	JONES	
DAVE	JONES	
GARY	JONES	
HAROLD	JONES	
JAMES	JONES	
MARK & MONICA	JONES	
MAURICE & LYNN	JONES	
RICK	JONES	
SIDNEY	JONES	
JIM	JONES	ALAMOSA COUNTY
TRICIA	JONES	CH2M HILL
BRAD	JONES,	
DAVID	JONES,	MIDWEST 4WD ASSN
LINDA	JOSEPH	MANITOU FOUNDATION
COSME	JR JAVALIRA	
JOHN & PATTY	JUDSON	QUARTER-CIRCLE CIRCLE RANCH
EDDIE	KAHL	
CURT	KAISER	
DEXTER	KANEEV	
KIM	KANIGEL	
E.A. & MARY FRANCIS	KARPER	
TIM	KAUL	
GEORGE	KAVOURAS	COLLEGIATE PEAK ANGLERS
BILL	KAYER	
BILL	KEELING	
VERYL	KEEN	
WESLEY	KEENEY	
JOE & GEORGE	KELLER	
EDWARD	KELLER	KELLER RANCH
HAROLD	KELLOFF	
GEORGE	KELLOFF, SR	MOVIE MANOR MOTEL
ED	KELLOGG	
ROBERT	KELLY	
DAVID	KENVIN	COLORADO DIVISION OF WILDLIFE
ROBERT & MARY ELLEN	KERNEN	
JOHN	KERNEN	VISTA GRANDE RANCH
APRIL	KESSLER	
RANDY	KEYS	COTTONWOOD MEADOWS GUIDE SERVICE
LARRY	KIMMELL	EPA - REGION 8 - EAB
BOB	KIRKHAM	
DAVID	KLAGER	WAGON WHEEL GAP ESTATES
GENE & FRANCIS	KLINE	
DUANE	KLOBERDANZ	
ED	KNAPP	
JAMES	KNAUER	KROGER, GARDIS & REGAS
JEFF	KNIGHT	
DARRELL	KNUFFKE,	THE WILDERNESS SOCIETY/CRR
LESLIE	KOCH	
DAVID	KOGLE	
JESSICA	KOLISCH	
MIKE & LYNDA	KOLISCH	

CARL	KOLISCH	KOLISH LUMBER COMPANY
RICHARD & VICKIE	KOLISCH	PEARL LAKES TROUT CLUB
RICHARD	KOLISCH, SR	
JOE	KOLUPKE	
LARRY	KORPI	
WENDY	KRAMER	
HARRY	KREFT	HOT STUFF LOGGING
SANDRA	KROLL	
PAUL	KUEHNEL	
MIKE & VIRGINIA	KUHLMAN	
BOB	KUKUK	
KENNETH	KUMOR	RURAL ELECTRIFICATION ADMINISTRATION
DENNIS	LAMB	
ELIZABETH	LAMB	
STEVE	LAMB	
WALT	LAMB	
HOWARD, MARGARET & SCOTT	LAMB	SOWARD RANCH
ART	LANCE	WOLF CREEK INDUSTRIES
LEN	LANKFORD	
STANLEY	LARKINS	
BEVERLY	LARSON	
DONALD	LARSON	
JEFFREY	LARSON	
CRAIG	LARSON,	THE MULE DEER FOUNDATION
FRANK	LAUGHREY	TIGER TIMBER INC.
ALAN & VALERIE	LAYTON	
LEO AND JERRY	LEE	
WILLMA	LEE	
DEAN	LEGGITT	
KEN & WENDY	LEGGITT	
PHIL	LEGGITT	
RICHARD & KATHLEEN	LEHMAN	
RICHARD	LEHMAN, JR.	
CLYDE	LEON	PUEBLO OF SANTA ANA
JERRY	LEPKE	
WHAYLON	LESTER	
FREEMAN	LESTER	CCH
LAYNE	LETTETT	COTTONWOOD COVE GUEST RANCH
NANCY	LEVIN	AMERICAN TRAILS
DWAYNE	LEWIS	
JAMES	LEWIS	
STEPHEN	LEWIS	
CYNTHIA ANN HILEMAN	LIBRARY OF CONGRESS	DOCUMENTS EXPEDITING PROJECT
WALTER	LIENHARD	
MARGARET	LINCOLN	
PAUL	LINCOLN	
LAURA	LINDLEY	BJORK, LINDLEY & DANIELSON, PC
STAN & EVELYN	LINSON	
ANDRES	LLORENTE	
BRAD	LLOYD	
EDWIN	LOBATO	
TOM	LONBERGER	
NORMAN	LOPEZ	UTE MTN UTE ECHO NEWSPAPER
TOM	LORD	
BOB & PATSY	LOUTH	
JEFF	LOUTH	
CARLOS	LUCERO	
JOSEF	LUCERO	
LESTER	LUCERO	
GILBERT	LUCERO	PUEBLO OF ZIA
ANASTACIO	LUCERO	SLV CATTLEMAN'S ASSOCIATION
RICHARD	LUCKEMEIER	
DREW	LUDWIG	ENSR CONSULTING AND ENGINEERING
DAN	LUECKE	ENVIRONMENTAL DEFENSE FUND
MIGUEL	LUJAN,	
LARRY	MACDONNELL	UNIVERSITY OF COLORADO SCHOOL OF LAW
JAMES	MALLOY	
JOHN	MALOUFF, JR.	
BARBARA	MANGAN,	

VERNON	MANN	
LOLITA	MANRING	
CHUCK	MANSUETTI	
CHARLES	MANZANARES	
LEO	MANZANARES	
MR/MRS M.S.	MARCH	
FRANK	MARICS	
JOHN	MARQUEZ	
J.D.	MARSTON	
ADELIA	MARTIN	
BILL	MARTIN	
HAROLD	MARTIN	
MICHAEL	MARTIN	ADAMS STATE COLLEGE
JOHN	MARTIN	COLORADO OHV COALITION
ERNEST	MARTINEZ	
ORLANDO	MARTINEZ	
WILLIAM	MARTINEZ	
J.	MARTINEZ	FAMILY VISION
MIKE	MARTINEZ	RIO CONSTRUCTION
BILLY	MARTINEZ	STATE LAND BOARD OFFICE
JIM	MARVIN	
RUSSELL	MATTHEWS	
WES & KATHY	MAUZ	TIMBERLINE LLAMAS, INC
TROY	MAYFIELD	COLORADO FARM BUREAU
DAVE	MAYS	US FOREST SERVICE
CHARLIE	MC ALISTER	
KEVIN	MCCABE	
ROZ	MCCLELLAN	SO ROCKIES ECOSYSTEM PROJECT
CARTER	MCCLINTOCK	
MIKE & JACOB	MCCLURE	
ELIZABETH	MCCLURE	CREEDE TV ASSN
JOE	MCDONALD	
CHARLES	MCDONALD	US FISH & WILDLIFE SERVICE
STEVE	MCGINNIS	
SCOTT	MCINNIS	US HOUSE OF REPRESENTATIVES
WILLIAM GERARD	MCKELROY	
DON	MCKENZIE	WILDLIFE MANAGEMENT INSTITUTE
JOHN	MCLARTY	
JOHN	MCNARY	
ROBERT	MCNEVIN	
PAT	MCQUEARY	
CHERYL	MEDINA	
JOSE	MEDINA	
ADAM	MEHLBERG	COLORADO ASSN OF 4-WD CLUBS INC
JACK	MENTO	GREENPEACE
BRIAN	MERRITT	
TONY	MERTEN	
BARBARA	MERTIAN	
RAY & MARGE	MICK	
JIM	MIETZ,	SAN LUIS VALLEY RC&D AREA, INC
DARRYL & DEBBIE	MILES	
E.S.	MILES	HIGH COUNTRY GUEST RANCH INC.
DUDLEY	MILLARD	COLORADO TIMBER INDUSTRY ASSN
ALFRED	MILLER	
BILL	MILLER	BUREAU OF LAND MANAGEMENT
VAUGHN	MILLER	HIGH WEST INC
JOHN	MIMMS, PAO	
ARDELL	MINER	
BRENDA	MITCHELL	
WAYNE & ERNEST	MOELLER	
DENNIS	MOELLER	LA MANGA LIVESTOCK ASSN
FRED & ASUNCIONITA	MONDRAGON	
MANUEL	MONDRAGON	
PETE	MONTERA	
STEVE	MONTGOMERY	
DAVE	MONTGOMERY	SLV AUDUBON SOCIETY
ANGELO	MONTOYA	
ERNIE	MONTOYA	
BILL & MARLENE	MOODY	

BILL & DEBBIE	MOORE	
DARON	MOORE	
GARY	MOORE	
KRISTA	MOORE	DEPARTMENT OF SOCIOLOGY
JENNA	MORAN	
MAX	MORAN	
ROY	MORELAND	
H.LAMONT & JANET	MORGAN	
ANDY	MORRIS	
JIM	MORRIS	
MARIE	MORRISSEY	
KELLY	MORTENSEN	
LOREN & VERDEN	MORTENSEN	
CLAIRE	MOSELEY	ROCKY MTN OIL AND GAS ASSN
JOHN & ELEANOR	MUELLER	
LYNNE	MUNSON	ROCKY MTN BACKCOUNTRY HORSEMEN
KEVIN	MURRAY	
BRAD	MUSICK	
GENE	MYERS	
GERALD	MYERS	
H.C.	MYERS	
ROBERT & NORMA	MYERS	
ALDEN	NARANJO,	SOUTHERN UTE TRIBAL COUNCIL
DAVID	NASLUND	TIMBER RESOURCES INFO PROGRAM
DARREL	NEAL	
JAKE & ELLEN	NEAL	
JOHN	NEAL	
H. BRAXTON	NEELY	
JANICE	NELSON	
LEAH	NESBITT	
CLAUDE	NEUMANN	COLORADO MOUNTAIN CLUB
GEORGE	NEWMYER	
EVERETT	NICKERSON	
EDWIN & ANNE	NIELSEN	
CAROLE	NIGHSWANDER	
R PATRICK	NOACK	
H.C.	NOELKE	
LYNN	NORBERG	
MARK	NORMAN	
MICHAEL	NUSSMAN	AMERICAN FISHING TACKLE MFG ASSN
BILL & ARLENE	NYE	
KENDALL	NYE	
RANDALL	NYE	
JOSEPH	O'CANA	
KEVIN	O'CONNELL	
KEVIN	O'DONNELL	GREENPEACE
MICHAEL	O'HANLON	
CLINTON	OFF	OFF RANCHES INC
CHUCK	OLIVER	
EDWARD & MARTHA	OLIVER	
MIKE	OLIVER	
PAUL	OLSON	
ELLEN	ORBISON,	YMCA OF THE ROCKIES
RICHARD & CATHY	ORMSBY	CREEDE HOTEL
FELIX	ORTEGA	
JOE	ORTEGA	
EDWARD & CHARLOTTE	ORTH	
PAT	ORTIZ	
HERB & JAN	OWEN	
FRANK	OWENS	
PAUL	PACHECO	
JERRY	PACHECO	COLORADO DIVISION OF WILDLIFE
ERNEST	PACHECO	SAN LUIS HEALTH CENTER
WILLIAM	PAGE	
RANDALL & LINDA	PALMGREN	
JEFFREY	PARISE	
KATHLEEN	PARKER	
GREG	PARSONS	COLORADO WATER QUALITY CONTROL COMM
ROBERT	PASTORE	COLORADO SENATE

FRED	PAULSON	
HENRY & BETTY	PAULSON	
ALLAN	PAWLOWSKI	YY WOOD
DAVE	PAYNE	
TOM	PAYNE	
TOM	PAYNE	
JOHN	PAYSSE	
ALFONSO	PEARSON	
MARK	PEARSON	SIERRA CLUB
WAYNE	PECK	AGAPE OUTFITTERS & GUIDE
PILAR	PEDERSEN	
LEE	PENNINGTON	UNION MINES INC
ANDY	PEREZ, JR	
CHARLES	PERINE	
LEVI	PESATA	JICARILLA APACHE TRIBE
MATT	PETERSON	
HAZEL	PETTY	
WILLIAM	PHILBERN	BLUE CREEK LODGE
ROBERT	PHILLED	SAGUACHE COUNTY COMMISSIONER
BILL	PHILLEO, JR	
ALLAN	PHIPPS	
LINDA	PICKERT	
CECIL	PICKETT	
DALE	PIZEL	
BOB	PLASKA	
JOHN & MELANIE	PLEASANT	
RON & CONNIE	PLEASANT	
ELIZABETH & RAYMOND	POAGE	
ADAM	POE	WOLF CREEK VALLEY
FRANCOISE	POINSATTE	
STEPHANIE	POLLARD	
EDWARD	POLLISTER	
FRED	PORTER	
MIKE & MARYANN	PORTER	
ROBERT	PORTMAN	
BOB	PORTMANN	
DONALD	POTTER, MD	
DR. TONY	POVILITIS	
DENNIS	POWELL	
JOHNNY	POWELL	
SALLY & JAKE	POWELL	
DAVID	POWELL	JAKE'S RIO GRANDE OUTFITTING
ANDREW	POWER	
GABE	PRESTON	
E. LAVELLE	PREWITT, JR	
DOUGLAS	PRIMAVERA	
MARLENE	PRUITT	
PAUL	PULLARO	
DALE	PURCELL	
DUANE	PURCELL	
CLENT	QUILLER	
WAYNE	QUINLAN	
BOB	QUINN	
EDDIE	QUINTANA	
GARY	RABIN	
DOUG	RABOTHOM	THE SIERRA CLUB
JOHN & WALTER	RABY	
GERRI	RADOSEVICH	FT. LEWIS ENVIRONMENTAL CENTER
JEFFREY	RAIN	
RICK	RAMSEY	
SHERRY	RANDALL	
BRENT	RASMUSSEN	
TOM	RAUCH,	COLORADO DIVISION OF WILDLIFE
BUTCH	RAWLS	MOUNTAIN TRAILS YOUOTH
GLENN	RAYMOND	
MRS. C.L.	RECORD	
MARK	REEFF,	INT ASSOC F&W AGENCIES
LILLIAN	REGAN	
CLIFFORD	REICHHOFF	

JUSTIN	REID	
HAROLD	REINHARAT	MOSCA, HOOPER, MOFFAT SERVICE LGE
JANNA	REMINGTON	
JOHN	RHOADS	RIVER RANCH COMPANY
ROBIN & LESLIE	RICE	
DAVID	RICHERSON	
PAT	RICHMOND	
BILL	RIGGENBACH	
DON	RIGGLE	COLORADO 500
KEN	RINGER	
ART & ILEEN	RIVALE	
BEN	RIVERA	
CHRIS	ROBERTS	
MARGY	ROBERTSON	
ROLAND	ROBIN	
GARY	ROBINS	
JACK	ROBINS	
WILLIAM	ROBINSON	
KENT	ROBINSON	AMERICAN FOREST & PAPER ASSN
MICHAEL	ROBINSON,	SINAPU
SUE	RODRIGUEZ-PASTOR	BIODIVERSITY LEGAL FOUNDATION
W.A.	ROESCH	TWIN MOUNTAIN ASSN
DANNY	ROGERS	
RICHARD	ROGERS	
GOVERNOR ROY	ROMER	STATE CAPITOL BLDG, RM 136
VERN	ROMINGER	
HAROLD	ROMINGER	BEAVER CREEK CAMP COMMISSION
CALVIN	ROSE, JR	CIRCLE R RANCH
WADE	ROTH	BANK ONE, CRAWFORDSVILLE
RON	ROUNDS	
GORDON	ROWE, JR	
BILL	RUCINSKI	JACKSON LUMBER COMPANY, INC.
BRIAN	RUE	
DWAINE	RUE	
MIKE	RUE	
LEROY & CAROL	RUE	HIGH VALLEY LUMBER
GLENN	RUGGLES	
MARTY	RUSH	
STEVE	RUSSELL	
STEVE	RUSSELL	NATURAL RES. CONSERVATION SERVICE
ERIC	RUSSELL	RUSSELL MOUNTAIN ENTERPRISES
CHRISTOPHER	RUSSON	
KATHY	RUTH	
TOBY	RUYBAL	
ELI	RYAN	
GREG	RYE	
JACK	SAARI	
DON	SAATHOFF	
EMIL	SABOL	PUBLIC TIMBER PURCHASERS GROUP
JOHN	SAINSBURY	
RODNEY	SALAZAR	
KEN	SALAZAR	DEPT. OF NATURAL RESOURCES
MARIO	SANCHEZ	
KENNETH	SANCHEZ	JD SANCHEZ CONSTRUCTION CO
PEARLE	SANDSTROM-SMITH	
GARY	SANTI	
DON	SAUTNER	
LADENE & KEITH	SAWYER	
SUSAN	SAWYER	RIO GRANDE FOREST WATCH
DICK	SCAR	TRAILHEAD VENTURES
FRANCIS	SCHAAF	
BOB	SCHAEFER	
JIM	SCHAFFER	
ERIC	SCHALLER	COLORADO DIVISION OF WILDLIFE
MAUREEN	SCHEIN	
HENRY	SCHIMPF	ANN'S CAFE
GERALD	SCHLOUGH	
LOUIS & JERRY	SCHMIDT	
KENNETH & MARY	SCHMITTEL	

DAVID & VERNA	SCHMITTEL	SCHMITTEL PACKING & OUTFITTING
LEO	SCHMITZ	CUMBRES & TOLTEC SCENIC RR COMM
RICK & BRENDA	SCHNADERBECK	
GARY	SCHOCKEY	
CHERYL	SCHREIER	NPS-NATIONAL NATURAL LANDMARKS PROG.
MARK	SCHROEDER	
PAT	SCHROEDER	US HOUSE OF REPRESENTATIVES
RONALD	SCHULZ	
JAMES	SCIBELLI,	
JULIE	SCOTT	
RANDY	SCOTT	
SMILEY	SCROEDER	
DAN	SCURLOCK	
LLOYD	SEARS	
DON	SEGOTTA	PACIFIC STUD & LUMBER COMPANY
EDWARD	SHARP	
KAY	SHARP	
ARTHUR & JEANNE	SHARPLEY	
DONALD	SHAWCROFT	
GARY R & ETHEL M	SHAWCROFT	
OSCAR	SHAWCROFT	
STEVE	SHAWCROFT	
JOHN	SHAWCROFT	BANCOS GRAZING ASSN
MARTILLE	SHAWCROFT	ESTATE OF WARREN SHAWCROFT
KENT	SHAWCROFT	SHAWCROFT WILLOW CREEK RANCH
BRETT	SHAWCROFT	SLV CATTLEMEN'S ASSN.
SANDY	SHEA	ANCIENT FOREST RESCUE
C.W. & JEFF	SHENKEL	
JEFF	SHENKEL	
REX	SHEPPERD	CREEDE TIMBERWATCH
MIKE	SHIELDS	
JEFF	SHOOK	VILLA GROVE MERCHANTS ASSN
CHARLES	SHUMATE	COLORADO DEPT OF HIGHWAYS
FRANK	SIDDONS	
ANNE	SILVER	
VIRGINIA	SIMMONS	
HAL	SIMPSON	COLORADO DIV OF WATER RESOURCES
PAUL	SINDER	
BOB	SINGER	
JOHN	SINGER	
DONALD	SINGLETON	
CURT	SITTLER	
TOM	SKILLING	
BETTY	SKOGLUND	
BICKFORD	SLACK	
TOM & CYNTHIA	SLANE	
BOB	SLATER	
DAVID	SLATER	CHEROKEE TRADING POST
MARK	SMALL CO	
ART & JEAN	SMITH	
DIANA	SMITH	
ERIN	SMITH	
KEN	SMITH	
LARRY	SMITH	
STEPHEN & KAY	SMITH	
SUZY	SMITH	
DON	SMITH	COLORADO DIVISION OF WILDLIFE
ROCKY	SMITH	COLORADO ENVIRONMENTAL COALITION
CINDY	SMITH	DAMES & MOORE
FLOYD	SMITH,	
C.A.	SNEED	
JOHN	SNELL	
GLADYS OWEIDA	SNODGRASS	
MARTIN	SORENSEN	SIERRA CLUB
BERTHA	SORENSON	ANTONITO CHAMBER OF COMMERCE
DALE & ORVA	SOWARDS	
ELWIN & LENA	SOWARDS	
KELLY	SOWARDS	
REVELL & CORAL	SOWARDS	

SHELTON	SOWARDS	
CURT	SPALDING	PAYETTE NATIONAL FOREST
MIKE	SPEARMAN	LT RANCH
DENNIS	SPEER	
HARRY	SPELLMAN	
ROBERT	SPENSLEY	
CLANCY	SPICER	CONEJOS RANCH
GREG	STABOLEPSZY	
JOSEPH	STAFFORD	
DICK	STALDER	
LEILA	STANFIELD	BIODIVERISTY ASSOCIATES
JOHN	STANSFIELD	
BILL	STARKEY	
JACK	STAUDER	
JOHN	STECK,	WESTERN UTILITY GROUP, C/O PSC OF CO
W.W	STEFFENS	
KATE	STEICHEN	
PETER	STEIN	
ANDREW	STEINY	SANTA FE NEW MEXICAN NEWS
TOM	STEPHENS	
JOHN	STERLE	
PHIL	STERLE	
JOHN	STERLING	
JEFF	STERN	RIO GRANDE FOREST WATCH
BOB	STEWART	
GLEN	STEWART	
MIKE	STEWART	
BOB	STEWART	CARSON WATCH
BILL	STIEDHAM	
RONALD	STOBBE	
GEORGE	STOKES	
CARL & JACKIE	STONE	
PAUL	STONE	
RAYMOND	STONER	
RAYMOND	STONER	
DONNA	STORY	COLORADO STATE FOREST SERVICE
RICHARD	STREHLAU	
FRAN	STRNAD	
JOHN	STROH, II	SO COLORADO LAND & LIVESTOCK CO
MADELINE	STRONG	
WHITNEY	STRONG	
GEORGE	STRONG	STRONG LUMBER
GEORGE	STROUP	
JAMES	STUEMKY	
TONY	SUDO	
JANICE	SUNSHINE	
VIRGINIA	SUTHERLAND	SUTHERLAND RANCHES INC
LYLE	SUTTER	
BILL	SUTTON	COLORADO OHV COALITION
JOHN	SWANSON	
ROCK	SWENSON	4UR RANCH, INC.
JOANNE	SWIERZY	
DAVE	SWINEHART	
KEN	SWINEHART	
TOM	SYLVESTER,	PEOPLE FOR THE WEST
MIKE	TALBERT	
JOHN	TALBERTH	FOREST CONSERVATION COUNCIL
CHRIS	TENDRICH	
FORREST	THAYER	
JOY	THETFORD	
JOHN	THOMAS	
VIC	THOMAS	
H. DALE	THOMAS	UNITED LEASING COMPANY
ERNEST	THOMPSON	
BARBARA	TIDD	
WALTER	TIMNEY	NEVADA MINES COMPANY
SKEET	TINGLE,	YOUNG LIFE WILDERNESS RANCH
GRETCHEN	TINKLE	
J.D.	TIPPET	

JIM	TOLISANO	ROUND RIVER CONSERVATION STUDIES
JAMES	TOLLES	
JIM	TONSO,	
JOHN	TRAVIS	
LIONEL	TREEPANIER	THE GREENS/GREEN PARTY USA
CHRIS	TREESE	COLORADO RIVERS DISTRICT
CHARLOTTE	TREGO	
RAY	TROUT	
TOM	TROXEL	INTERMOUNTAIN FOREST INDUSTRY ASSN.
ARTHUR	TRUJILLO	
RYAN	TUCKER	
BILL	TYLER	BIOLOGY DEPT
MARK	UDALL	COLORADO OUTWARD BOUND SCHOOL
GARY	ULLMAN	LOUISIANA PACIFIC INC
HAROLD	UPTON	CENTER FOR MARINE CONSERVATION
SUPERINTENDENT	USDI--NATL PARK SERVICE	GREAT SAND DUNES NATIONAL MONUMENT
PAT	USSERY	
DOLLIE	VALDEZ	
DUANE	VALDEZ	
FELIX	VALDEZ	
GLENN	VALDEZ	
MAX	VALDEZ	
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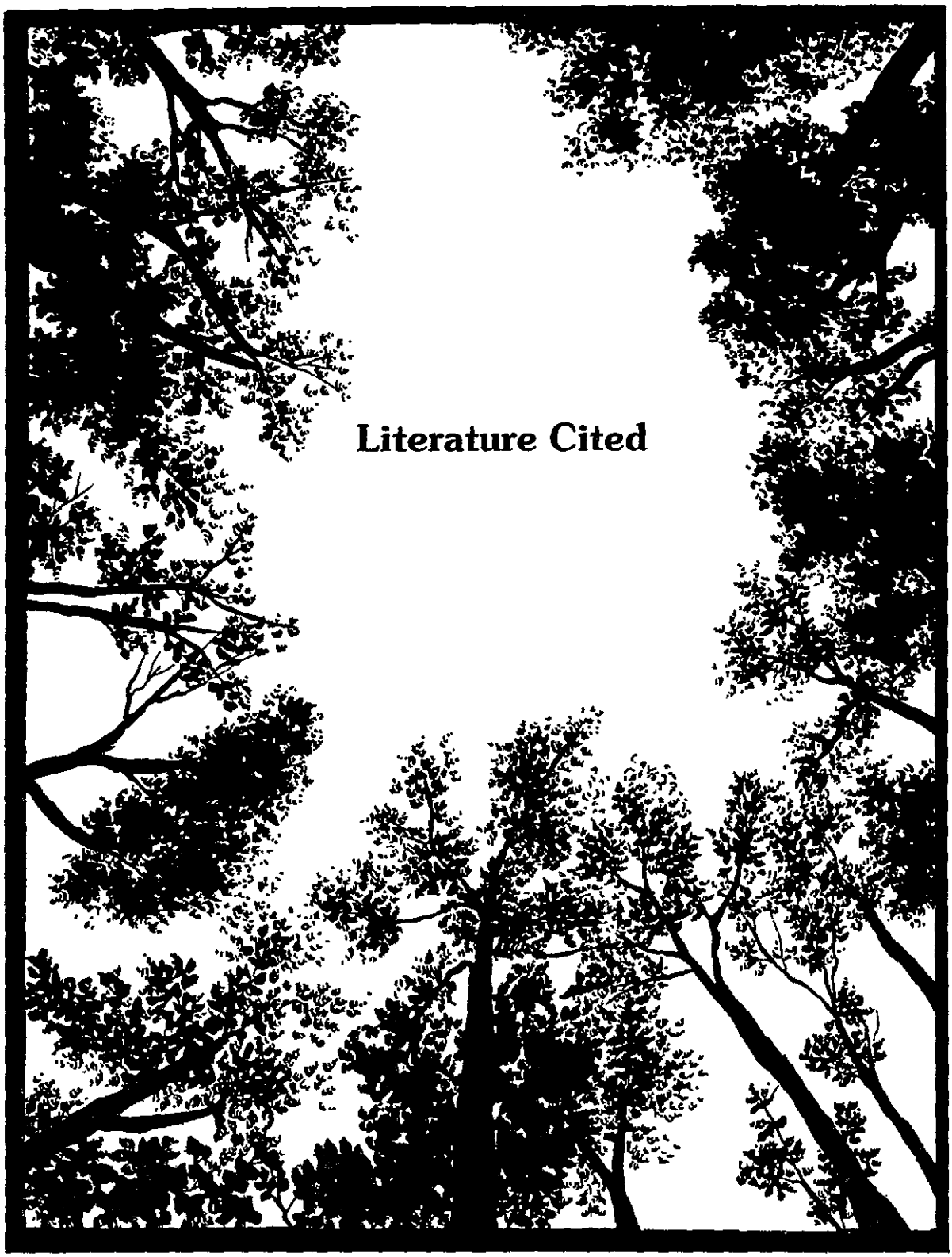

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Table S-1. Summary of Key Land Allocations							
Management Prescriptions	**ALT A**	**ALT B**	**ALT D**	**ALT E**	**ALT F**	**ALT G**	**ALT NA**
1 11-Wilderness , Pristine	47,760	47,760	47,760	47,760	47,760	138,120	55,200
1 11/1 5-Wilderness, Pristine/Wild River	1,300	1,300	1,300	1,300	1,300	1,820	0
1 11/2 2- Wilderness, Pristine/RNA	9,630	9,630	9,630	9,630	9,630	5,580	0
1 11/3 3-Wilderness, Pristine/RNA	0	0	0	0	0	1,480	0
1 12-Wilderness, Primitive	52,860	52,860	52,860	52,860	52,860	170,580	51,110
1 12/1 5-Wilderness, Primitive/Wild River	70	70	70	70	70	2,620	0
1 12/2 2-Wilderness, Primitive/RNA	4,940	4,940	4,940	4,940	4,940	2,010	0
1 12/3 4- Wilderness, Primitive/Scenic River	0	0	0	0	0	800	0
1 13-Wilderness, Semi Primitive	286,250	286,250	286,250	286,250	286,250	98,850	323,950
1 13/1 5-Wilderness, SP/Wild River	3,240	3,240	3,240	3,240	3,240	170	0
1.13/2.2-Wilderness, SP/RNA	17,870	17,870	17,870	17,870	17,870	4,180	0
1 13/2 2/3 4-Wilderness, SP/RNA/Scenic River	100	100	100	100	100	100	0
1 13/3 4-Wilderness, SP/Scenic River	5,080	5,080	5,080	5,080	5,080	2,800	0
1 13/4 4-Wilderness, SP/Rec River	1,140	1,140	1,140	1,140	1,140	1,140	0
1 2-Recommended for Wilderness	498,530	0	0	104,950	190,990	0	0
1 2/1 5-Rec for Wild/Wild River	110	0	0	0	2,520	0	0
1 2/2 2-Rec for Wild/RNA	5,430	0	0	0	3,960	0	0
1 2/3 4-Rec for Wild/Scenic River	2,090	0	0	0	240	0	0
1 31-Backcountry Rec-Nonmotorized	61,270	115,620	0	292,670	44,180	0	66,490

Table S-1 Summary of Key Land Allocations, Continued.							
Management Prescriptions	ALT A	ALT B	ALT D	ALT E	ALT F	ALT G	ALT NA
1 32-Backcountry Rec-Motorized	0	0	303,460	0	0	0	0
1 41-Core Area	0	0	0	0	460,370	0	0
1 42-Core Area, Restoration	0	0	0	0	10,200	0	0
1 5-Wild Rivers (Designated/Eligible)	2,870	2,980	2,980	2,980	460	570	0
2 1-Special Interest Areas, Minimal Use	2,100	2,240	3,320	3,280	2,100	30	0
2 2-Research Natural Area	6,410	11,840	11,840	11,840	7,880	11,840	0
3 1-Special Interest Area-Use/Interp	26,470	19,760	29,570	33,720	13,250	31,950	0
3 21-Limited Use Area	0	0	0	0	34,350	0	0
3 22-Limited Use Area, Restoration	0	0	0	0	150,090	0	0
3 3-Backcountry	0	0	0	0	0	463,470	0
3 31-Backcountry Recreation, Motorized	61,250	119,730	85,990	117,250	9,240	0	38,300
3 4-Scenic Rivers (Designated/Eligible)	500	2,600	2,600	2,600	2,360	4,650	0
3 55-Wildlife Corridor connecting Core Areas	0	0	0	0	57,300	0	0
3 56-Aspen, Limited Mgmt	0	0	0	0	0	0	42,220
4 21-Scenic Byways or Railroads	23,320	22,500	31,490	27,680	20,610	27,730	0
4 3-Dispersed Recreation	104,810	58,490	64,240	59,780	74,090	69,330	0
4 4-Recreation Rivers (Designated/Eligible)	11,190	12,090	12,090	12,110	9,620	12,090	3,300
5 11-General Forest and Rangelands	368,410	306,080	229,250	280,830	172,180	172,940	0
5 13-Forest Products	0	380,240	304,670	163,780	0	297,110	332,390

Table S-1. Summary of Key Land Allocations, Continued.							
Management Prescriptions	**ALT A**	**ALT B**	**ALT D**	**ALT E**	**ALT F**	**ALT G**	**ALT NA**
5 21-Water Yield Emphasis	0	0	0	0	0	0	213,280
5 41-Deer and Elk Winter Range	206,260	214,540	190,500	203,690	126,920	189,090	284,370
5 42-Big Horn Sheep Habitat	42,850	75,410	80,130	73,920	32,430	68,450	162,750
6 6-Grassland Resource Production	1,450	81,210	73,180	34,250	0	76,090	282,170
8 22-Ski Resorts	1,180	1,180	1,180	1,180	1,180	1,180	1,240
Private Inholdings	104,300	104,300	104,300	104,300	104,300	104,300	104,300
Forest Total	1,961,050	1,961,050	196,050	1,961,050	1,961,050	1,961,050	1,961,050
Proposed Wilderness	506,200	0	0	105,000	197,700	0	0
Wild Rivers	7,600	7,600	7,600	7,600	7,600	5,200	0
Scenic Rivers	7,800	7,800	7,800	7,800	7,800	9,800	0
Recreation Rivers	12,300	13,200	13,200	13,300	10,800	13,200	3,300

Table S-2 Activities, Outcomes, and Effects								
ESTIMATED LEVELS AND TIMES OF IMPLEMENTATION	UNITS	ALT A	ALT B	ALT D	ALT E	ALT F	ALT G	ALT NA
RECREATION								
Activities								
Developed Capacity Available	PAOT - DAYS							
10 - Year Desired Condition Level		809,750	851,250	822,750	851,250	794,750	837,300	840,250
Decade 1 - Total		805,250	830,750	810,330	837,600	786,950	824,000	828,140
Developed Fee Sties Capacity	PAOT - DAYS	1,330	1,870	1,660	1,870	1,475	1,766	1,870
40% Rule[1]		532	748	664	748	590	706	740
Trails Available to Standard	Miles							
10 -Year Desired Condition Level		200	300	240	240	200	240	200
Decade 1 - Total		185	250	200	210	170	200	175
Trails Available - Total	Miles				576	546		676
10 -Year Desired Condition Level		506	676	676	576	546	626	676
Decade 1 - Total		470	630	645	560	520	610	630
Outcomes								
Developed Use - Total								
10 - Year Desired Condition Level	M Visits/Yr	368 0	378 0	380 0	373 0	349 0	387 0	368 0
Decade 1 - Total		350 0	360 0	368 0	365 0	337 0	372 0	358 0
Dispersed Use - Total	M Visits							
10 - Year Desired Condition Level		368 0	378 0	380 0	373 0	349 0	393 0	368 0

[1] 40% Rule -- When campgrounds have a 40% occupancy rate throughout the duration of the use season, major facility reconstruction and resource improvement work is required

Table S-2 Activities, Outcomes, and Effects, Continued.								
ESTIMATED LEVELS AND TIMES OF IMPLEMENTATION	UNITS	ALT A	ALT B	ALT D	ALT E	ALT F	ALT G	ALT NA
Decade 1 - Total		342 0	340 0	350 0	343 0	330 0	378 0	338 0
SCENERY MANAGEMENT								
Scenic Resource Improvement	Acres							
10 - Year Desired Condition Level		37,716	96,913	96,913	96,913	37,716	96,913	96,913
Decade 1 - Total		3,700	8,600	8,600	8,600	3,700	8,600	8,600
WILDERNESS								
Activities								
Trails Available to Standard	Miles							
10 - Year Desired Condition Level		745	575	575	675	705	468	575
Decade 1 - Total		710	535	550	645	615	440	550
Trail Reconstruction	Miles							
10 - Year Desired Condition Level		50	80	70	70	50	70	50
Decade 1 - Total		33	33	33	33	33	33	33
Outcomes								
Wilderness Use - Total	M Visits							
10 - Year Desired Condition Level		405 0	217 0	218 0	261 0	279 0	218 0	212 0
Decade 1 - Total		390 0	200 0	195 0	236 0	255 0	198 0	190 0
HERITAGE RESOURCES								
Activities								

Table S-2 Activities, Outcomes, and Effects, Continued								
ESTIMATED LEVELS AND TIMES OF IMPLEMENTATION	UNITS	ALT A	ALT B	ALT D	ALT E	ALT F	ALT G	ALT NA
Inventory Area	*Acres (1000's)*							
10 - Year Desired Condition Level		54 0	49 8	45 9	34 4	47 4	54 0	52 7
Decade 1 - Total		30 0	26 0	26 4	25 4	23 0	31 0	47 4
Sites Evaluated and Protected								
10 - Year Desired Condition Level		1,180	1,010	960	1,020	1,150	1,015	960
Decade 1 - Total		814	515	538	551	874	535	864
Sites Interpreted or Enhanced								
10 - Year Desired Condition Level		15	10	10	15	10	10	10
Decade 1 - Total		11	5	6	8	8	7	9
Outcomes								
Heritage Use - Total	M Visits							
10 - Year Desired Condition Level		10	10	10	15	10	10	10
Decade 1 - Total		7	5	6	8	8	7	9
FISHERIES/WILDLIFE/THREATENED, ENDANGERED SPECIES								
Inventory								
Neotropical Migratory Birds	Projects							
10 - Year Desired Condition Level		3	3	3	3	3	3	3
Decade 1 - Total		3	0	2	2	3	3	0
Decade 5 - Total		0	0	0	0	0	0	0

Table S-2 Activities, Outcomes, and Effects, Continued.								
ESTIMATED LEVELS AND TIMES OF IMPLEMENTATION	UNITS	ALT A	ALT B	ALT D	ALT E	ALT F	ALT G	ALT NA
OLD GROWTH	Projects							
10 - Year Desired Condition Level		1	1	1	1	1	1	1
Decade 1 - Total		1	1	1	1	1	1	1
Decade 5 - Total		0	0	0	0	0	0	0
STREAM SURVEY	Miles							
10 - Year Desired Condition Level		1,000	1,000	1,000	1,000	1,000	1,000	1,000
Decade 1 - Total		1,000	100	500	500	1,000	500	100
Decade 5 - Total		0	0	0	0	0	0	0
SUMMER RANGE	Projects							
10 - Year Desired Condition Level		1	1	1	1	1	1	1
Decade 1 - Total		1	0	5	5	1	5	0
Decade 5 - Total		0	0	0	0	0	0	0
MONITORING								
THREATENED AND ENDANGERED SPECIES	Projects							
10 - Year Desired Condition Level		1	1	1	1	1	1	1
Decade 1 - Total		1	1	1	1	1	1	1
Decade 5 - Total		0	0	0	0	0	0	0
REFERENCE AREAS	Projects							
10 - Year Desired Condition Level		1	1	1	1	1	1	1

Table S-2 Activities, Outcomes, and Effects, Continued								
ESTIMATED LEVELS AND TIMES OF IMPLEMENTATION	UNITS	ALT A	ALT B	ALT D	ALT E	ALT F	ALT G	ALT NA
Decade 1 - Total		1	0	5	5	1	5	0
Decade 5 - Total		0	0	0	0	0	0	0
REVISION	Projects							
10 - Year Desired Condition Level		1	1	1	1	1	1	1
Decade 1 - Total		1	1	1	1	1	1	1
Decade 5 - Total		1	1	1	1	1	1	1
GRAZING								
Activities								
Grazing - Sheep	M Heads Months							
10 - Year Desired Condition Level		52	74	74	62	33	74	74
Decade 1 - Total		52	74	74	62	33	74	74
Grazing - Cattle	M Heads Months							
10 - Year Desired Condition Level		52	74	74	62	33	74	74
Decade 1 - Total		52	74	74	62	33	74	74
RANGELAND VEGETATION								
Activities								
Noxious Weeds	Acres							
10 - Year Desired Condition Level		147	259	182	182	147	182	182
Decade 1 - Total		147	259	182	182	147	182	182

Table S-2 Activities, Outcomes, and Effects, Continued								
ESTIMATED LEVELS AND TIMES OF IMPLEMENTATION	UNITS	ALT A	ALT B	ALT D	ALT E	ALT F	ALT G	ALT NA
FORESTLAND VEGETATION								
Activities								
Allowable Sale Quantity								
10 - Year Desired Condition Level Conifer-	MMBF	0	256 1	215 5	124 7	76 0	212 4	187 6
(Decade 1)	MMCF	0	674 3	516 4	312 2	168 7	518 7	481 2
Aspen - Decade 1	MMBF	0	32 0	10 0	10 0	10 0	18 6	23 9
	MMCF	0	180 9	171 7	103 2	71 8	111 9	141 9
Timber Sale Program Quantity								
10 - Year Desired Condition Level	MMBF	27 5	359 8	284 2	176 6	122 1	290 7	267 2
	MMCF	76 3	1067 5	866 9	544 4	341 3	793 4	786 9
Decade 1 - Total	MMBF	27 5	194 6	131 0	100 2	64 6	154 2	131 0
	MMCF	76 3	487 1	355 6	286 6	171 6	397 1	342 1
Decade 5 - Total	MMBF	13 7	194 0	126 7	92 0	49 6	151 7	126 7
	MMCF	38 0	470 5	340 8	266 9	125 4	380 8	323 0
Harvest -- Even-aged								
10 - Year Desired Condition Level	Acres	0	36,343	23,194	12,103	4,833	26,217	25,589
Decade 1 - Total		0	14,211	8,790	4,305	1,334	10,893	9,158
Decade 5 - Total		0	17,484	10,581	6,320	1,410	14,505	10,436
Harvest -- Uneven-aged								

Table S-2. Activities, Outcomes, and Effects, Continued.								
ESTIMATED LEVELS AND TIMES OF IMPLEMENTATION	UNITS	ALT A	ALT B	ALT D	ALT E	ALT F	ALT G	ALT NA
10 - Year Desired Condition Level	Acres	0	18,693	15,565	12,257	12,326	11,887	13,952
Decade 1 - Total		0	9,129	7,817	8,408	4,215	5,045	5,482
Decade 5 - Total		0	9,908	7,855	9,358	4,855	4,917	5,897
Reforestation								
10 - Year Desired Condition Level	Acres	0	2,752	1,938	1,218	858	1,905	1,977
Decade 1 - Total		0	1,167	830	636	277	797	732
Decade 5 - Total		0	1,370	922	784	313	971	817
TSI	Acres							
10-Year Desired Condition Level		0	2476	1744	1096	772	1715	1780
Decade 1 - Total		0	1051	747	573	250	718	659
Decade 5 - Total		0	1233	829	705	282	874	735
Long Term Sustained Yield	MCCF/Yr							
Conifer - Desired Condition		0	69.1	53.9	33.4	18.8	54.2	50.5
Conifer - Experienced		0	44.9	31.3	24.0	8.2	36.3	29.4
Aspen - Desired Condition		0	28.2	23.7	14.0	9.5	16.2	21.0
Aspen - Experienced		0	0	0	0	0	0	0
Volume Offered- Chargeable	MCCF							
Conifer - Desired		0	674.3	516.4	312.1	168.7	518.7	481.2
Conifer - Decade 1		0	364.5	252.8	189.5	75.6	288.7	239.6
Conifer - Decade 5		0	364.5	252.8	189.5	75.6	288.7	239.6

Table S-2. Activities, Outcomes, and Effects, Continued.								
ESTIMATED LEVELS AND TIMES OF IMPLEMENTATION	UNITS	ALT A	ALT B	ALT D	ALT E	ALT F	ALT G	ALT NA
Aspen - Desired		0	180.9	171.7	103.2	71.8	111.9	141.9
Aspen - Decade 1		0	0	0	0	0	0	0
Aspen - Decade 5		0	0	0	0	0	0	0
Volume Offered -- Nonchargeable	MCCF							
Desired		76.3	212.3	178.8	129.1	100.8	162.8	163.8
Decade 1		76.3	122.6	102.8	97.1	96.0	108.4	102.5
Decade 5		38.0	106.0	88.0	77.4	49.8	92.1	83.4
SOIL, WATER, AND AIR								
Activities								
Soil and Water Resource Improvements	Acres							
10 - Year Desired Condition Level		3,420	3,420	3,420	3,420	3,630	3,420	3,420
Decade 1 - Total		3,420	1,880	2,010	1,750	2,792	2,010	0
Watershed Condition -- Class I Watersheds	Watersheds							
10 - Year Desired Condition Level		126	126	126	126	126	126	126
Decade 1 - Total		182	182	182	182	182	182	182
Decade 5 - Total		132	127	129	129	131	129	127
Watershed Condition -- Class II Watersheds	Watersheds							
10 - Year Desired Condition Level		45	45	45	45	45	45	45
Decade 1 - Total		0	0	0	0	0	0	0
Decade 5 - Total		40	44	42	42	41	42	44

Table S-2 Activities, Outcomes, and Effects, Continued.								
ESTIMATED LEVELS AND TIMES OF IMPLEMENTATION	UNITS	ALT A	ALT B	ALT D	ALT E	ALT F	ALT G	ALT NA
Watershed Condition -- Class III Watersheds	Watersheds							
10 - Year Desired Condition Level		11	11	11	11	11	11	11
Decade 1 - Total		0	0	0	0	0	0	0
Decade 5 - Total		10	11	11	11	10	11	11
Estimated Acres Mineral Lease	M Acres							
Decade 1 - Total		0	250	250	250	7 5	250	250
FIRE								
Activities								
Fuel Treatment	Acres							
10-Year Desired Condition Level		47,000	47,000	47,000	47,000	47,000	47,000	47,000
Decade 1 - Total		12,000	12,000	12,000	12,000	12,000	12,000	12,000
ROAD MAINTENANCE								
Activities								
Roads Maintained - Total	Miles							
10 - Year Desired Condition Level		9,420	9,420	9,420	9,420	7,750	9,420	9,420
Decade 1 - Total		6,900	6,900	6,900	6,900	6,900	6,900	6,900
ROAD AND TRAIL CONSTRUCTION								
Activities								
Road Construction								

Table S-2 Activities, Outcomes, and Effects, Continued								
ESTIMATED LEVELS AND TIMES OF IMPLEMENTATION	UNITS	ALT A	ALT B	ALT D	ALT E	ALT F	ALT G	ALT NA
10 - Year Desired Condition Level	Miles	0	64	33	0	0	13	49
Decade 1 - Total		0	3	0	0	0	0	1
Road Reconstruction								
10 - Year Desired Condition Level		0	54	45	24	17	38	38
Decade 1 - Total		0	23	17	13	6	39	15
Road Obliteration								
10 - Year Desired Condition Level		486	486	486	486	840	100	486
Decade 1 - Total		150	150	150	150	150	50	150
Trail Construction								
10 - Year Desired Condition Level		30	30	30	30	30	30	30
Decade 1 - Total		30	30	30	30	30	30	30
Trail Reconstruction								
10 - Year Desired Condition Level		150	250	200	200	150	200	120
Decade 1 - Total		150	100	100	100	100	100	100

Table S-3 - FEIS - Forest Plan Revision Budget Sheet

Thousands of Dollars/Year - First Decade

	Alternative A		Alternative B		Alternative D		Alternative E		Alternative F		Alternative G		Alternative NA	
COST CENTER	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp
RECREATION/WILDERNESS														
Revenue baseed Rec Mgmt	$562 8	$497 7	$569 1	$399 0	$594 0	$399 0	$574 0	$431 0	$546 0	$331 6	$579 0	$441 0	$594 0	$496 0
Heritage Resources	$144 0	$120 9	$193 0	$89 5	$176 0	$89 5	$208 0	$101 7	$132 0	$81 0	$189 0	$101 0	$111 0	$111 0
Nonrevenue Based Rec	$588 1	$569 1	$659 6	$501 0	$666 0	$501 0	$640 0	$516 0	$619 0	$461 7	$665 0	$547 2	$661 0	$596 8
Rec Special Use Mgmt	$154 0	$110 0	$143 0	$125 0	$140 0	$125 0	$155 0	$115 0	$140 0	$95 0	$135 0	$115 0	$125 0	$130 0
Wilderness Mgmt	$450 0	$343 8	$352 3	$244 0	$335 0	$244 0	$403 0	$308 0	$398 0	$276 0	$352 0	$324 1	$352 0	$285 0
Subtotal	$1,898 9	$1,641 5	$1,917 0	$1,358 5	$1,911 0	$1,358 5	$1,980 0	$1,471 7	$1,835 0	$1,245 3	$1,920 0	$1,528 3	$1,843 0	$1,618 8
WILDLIFE/FISHERIES														
Wildlife Habitat Mgmt	$468 5	$284 6	$468 5	$126 0	$468 5	$170 5	$468 5	$170 5	$468 5	$352 2	$468 5	$170 5	$468 5	$135 9
Inland Fisheries Mgmt	$351 4	$213 1	$351 4	$94 3	$351 4	$148 3	$351 4	$128 4	$351 4	$264 2	$351 4	$128 4	$351 4	$101 8
TE&S Species Mgmt	$351 4	$238 1	$351 4	$119 3	$351 4	$153 4	$351 4	$153 4	$351 4	$289 2	$351 4	$153 4	$351 4	$101 8
Subtotal	$1,171 3	$735 8	$1,171 3	$339 6	$1,171 3	$472 2	$1,171 3	$452 3	$1,171 3	$905 6	$1,171 3	$452 3	$1,171 3	$339 5
RANGE														
Permit Administration	$364 1	$346 3	$601 1	$445 2	$440 1	$445 2	$440 1	$445 2	$343 5	$296 8	$419 5	$445 2	$440 1	$385 9
Rangeland Veg Mgmt	$87 5	$49 9	$86 7	$64 2	$158 5	$64 2	$158 5	$64 2	$49 5	$42 8	$60 5	$64 2	$88 5	$55 6
Subtotal	$451 6	$396 2	$687 8	$509 4	$598 6	$509 4	$598 6	$509 4	$393 0	$339 6	$480 0	$509 4	$528 6	$441 5
TIMBER														
Timber Sale Mgmt	$0 0	$0 0	$2,614 7	$837 6	$1,722 6	$559 7	$876 6	$453 0	$575 8	$205 0	$1,320 1	$585 0	$1,842 9	$475 0
Forestland Vegetation Mgmt	$150 5	$125 0	$433 6	$413 0	$288 3	$270 4	$226 2	$255 0	$101 1	$108 0	$310 5	$305 0	$263 5	$260 0
Subtotal	$150 5	$125 0	$3,048 3	$1,250 6	$2,010 9	$830 1	$1,102 8	$708 0	$676 9	$313 0	$1,630 6	$890 0	$2,106 4	$735 0
WATER,SOIL, & AIR														
Water & Soil Mgmt	$1,047 0	$734 4	$1,047 0	$259 1	$1,047 0	$366 2	$1,047 0	$420 6	$1,097 0	$636 4	$995 0	$313 9	$1,047 0	$171 0
Air Resource Mgmt	$85 0	$68 4	$85 0	$23 9	$85 0	$30 0	$85 0	$32 2	$85 0	$42 7	$70 0	$25 7	$85 0	$15 8
Subtotal	$1,132 0	$802 8	$1,132 0	$283 0	$1,132 0	$396 2	$1,132 0	$452 8	$1,182 0	$679 1	$1,065 0	$339 6	$1,132 0	$186 8
MINERALS MGMT	$274 0	$56 6	$289 0	$169 8	$289 0	$169 8	$279 0	$113 2	$279 0	$56 6	$289 0	$113 2	$279 0	$106 0

Table S-3 - FEIS - Forest Plan Revision Budget Sheet, Continued
Thousands of Dollars/Year - First Decade

	Alternative A		Alternative B		Alternative D		Alternative E		Alternative F		Alternative G		Alternative NA	
COST CENTER	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp
INFRASTRUCTURE														
Basic Land Stewardship Mgmt	$512 0	$205 0	$408 0	$150 0	$408 0	$190 0	$407 8	$155 0	$512 0	$250 0	$408 0	$170 0	$408 0	$115 3
Facilities Mgmt	$454 0	$201 0	$454 0	$219 0	$454 0	$245 0	$454 0	$189 0	$454 0	$210 0	$454 0	$190 0	$374 0	$168 2
Road System Mgmt	$1,613 4	$595 0	$1,695 3	$598 5	$1,710 3	$645 0	$1,669 5	$564 0	$1,544 8	$590 0	$1,710 3	$620 0	$1,587 3	$518 1
Subtotal	$2,579 4	$1,001 0	$2,557 3	$967 5	$2,572 3	$1,080 0	$2,531 3	$908 0	$2,510 8	$1,050 0	$2,572 3	$980 0	$2,369 3	$801 6
PROTECTION														
Real Estate/Special Use Mgmt	$130 0	$100 0	$130 0	$100 0	$169 0	$130 0	$169 0	$130 0	$130 0	$100 0	$130 0	$100 0	$117 7	$90 5
Fire Protection/Mgmt	$223 6	$219 6	$223 6	$224 0	$223 6	$219 6	$219 6	$219 6	$223 6	$219 6	$223 6	$224 0	$223 6	$219 6
Law Enforcement	$40 0	$40 0	$40 0	$40 0	$40 0	$40 0	$44 0	$40 0	$40 0	$45 0	$40 0	$45 0	$40 0	$40 0
Subtotal	$393 6	$359 6	$393 6	$364 0	$432 6	$389 6	$432 6	$389 6	$393 6	$364 6	$393 6	$369 0	$381 3	$350 1
GENERAL ADMIN	$1,033 5	$689 0	$1,033 5	$689 0	$1,033 5	$689 0	$1,033 5	$689 0	$1,033 5	$689 0	$1,033 5	$689 0	$1,300 0	$1,274 0
Grand Total	$9,084 8	$5,807 5	$12,229 8	$5,931 4	$11,151 2	$6,894 8	$10,261 1	$5,694 0	$9,475 1	$5,642 8	$10,555 3	$5,870 8	$11,110 9	$5,853 3

Optional Budget Summary

	Alternative A		Alternative B		Alternative D		Alternative E		Alternative F		Alternative G		Alternative NA	
	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp
Operations	$3,072 4	$2,071 7	$3,372 8	$1,769 7	$3,304 4	$1,907 8	$3,298 4	$1,846 5	$2,995 1	$1,894 9	$3,131 9	$1,830 1	$3,084 0	$1,640 5
Maintenence	$1,810 1	$885 7	$2,303 8	$898 0	$2,186 5	$857 4	$2,076 5	$913 8	$1,882 1	$712 8	$2,131 6	$980 0	$2,090 8	$879 3
Investment	$1,519 1	$987 7	$3,159 2	$1,123 1	$2,529 0	$1,020 8	$1,914 0	$946 1	$1,774 4	$1,033 9	$2,161 6	$943 2	$2,623 3	$873 7
Monitoring	$380 7	$381 6	$499 6	$428 9	$461 0	$419 6	$424 1	$412 6	$412 2	$399 6	$444 7	$431 6	$464 3	$338 1
Overhead	$1,999 3	$1,305 9	$2,366 8	$1,389 9	$2,243 5	$1,431 1	$2,158 8	$1,344 0	$2,063 2	$1,395 6	$2,237 8	$1,414 9	$2,405 1	$1,863 7
Subtotal	$8,781 6	$5,632 6	$11,702 2	$5,609 6	$10,724 4	$5,636 7	$9,871 8	$5,463 0	$9,127 0	$5,436 8	$10,107 6	$5,599 8	$10,667 5	$5,595 3
Trust Fund	$303 2	$174 9	$527 6	$321 8	$426 8	$258 1	$389 3	$231 0	$348 1	$206 0	$447 7	$271 0	$443 4	$258 0
Grand Total	$9,084 8	$5,807 5	$12,229 8	$5,931 4	$11,151 2	$5,894 8	$10,261 1	$5,694 0	$9,475 1	$5,642 8	$10,555 3	$5,870 8	$11,110 9	$5,853 3

Revenue Source

	Alternative A		Alternative B		Alternative D		Alternative E		Alternative F		Alternative G		Alternative NA	
	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp	Full	Exp
Range	$87 1	$87 1	$143 7	$143 7	$143 7	$143 7	$108 1	$108 1	$0 0	$0 0	$143 7	$143 7	$143 7	$143 7
Timber	$50 8	$50 8	$5,326 7	$2,785 1	$4,184 6	$1,869 3	$2,534 1	$1,404 0	$1,408 5	$565 3	$4,020 0	$2,122 0	$3,826 6	$1,772 1
Recreation	$380 0	$380 0	$405 0	$350 0	$405 0	$350 0	$395 0	$360 0	$370 0	$340 0	$415 0	$370 0	$390 0	$360 0
Minerals/Oil&Gas	$0 0	$0 0	$411 0	$411 0	$411 0	$411 0	$411 0	$411 0	$15 0	$15 0	$411 0	$411 0	$411 0	$411 0
Subtotal	$517 9	$517 9	$6,286 4	$3,689 8	$5,144 3	$2,774 0	$3,448 2	$2,283 1	$1,793 5	$920 3	$4,989 7	$3,046 7	$4,771 3	$2,686 8

Experienced Budget Allocations by Cost Center

	Alternative A		Alternative B		Alternative D		Alternative E		Alternative F		Alternative G		Alternative NA	
REC/WILD	29%	$1,641 5	24%	$1,358 5	24%	$1,358 5	26%	$1,471 7	22%	$1,245 3	27 0%	$1,528 3	28 6%	$1,618 8
WILDLIFE/FISHERIES	13%	$735 8	6%	$339 6	8%	$452 8	8%	$452 8	16%	$905 6	8 0%	$452 8	6 0%	$339 6
RANGE	7%	$396 2	9%	$509 4	9%	$509 4	9%	$509 4	6%	$339 6	9 0%	$509 4	7 8%	$441 5
TIMBER	2%	$113 2	19%	$1,075 5	13%	$735 8	11%	$622 6	5%	$283 0	14 0%	$792 4	12 2%	$690 6
WATER,SOIL,AIR	13%	$735 8	5%	$283 0	7%	$396 2	8%	$452 8	12%	$679 2	6 0%	$339 6	3 3%	$186 8
MINERALS MGMT	1%	$56 6	3%	$169 8	3%	$169 8	2%	$113 2	1%	$56 6	2 0%	$113 2	0 9%	$50 9
INFRASTRUCTURE	13%	$735 8	12%	$679 2	12%	$679 2	12%	$679 2	12%	$679 2	12 0%	$679 2	11 3%	$639 6
PROTECTION	12%	$679 2	12%	$679 2	14%	$792 4	14%	$792 4	16%	$905 6	12 0%	$679 2	15 7%	$888 7
GENERAL ADMIN	10%	$566 0	10%	$566 0	10%	$566 0	10%	$566 0	10%	$566 0	10 0%	$566 0	14 2%	$803 8
	100%	$5,660 3	100%	$5,660 3	100%	$5,660 3	100%	$5,660 3	100%	$5,660 3	100 0%	$5,660 3	100 0%	$5,660 3